

What We Learned About Practical Audio By Going To Disneyland™

Dwight Okahara & Chris Olander
Insomniac Games

GAME DEVELOPERS CONFERENCE

SAN FRANCISCO, CA
MARCH 5-9, 2012
EXPO DATES: MARCH 7-9

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Introductions

- Dwight Okahara

20+ years as an Audio Dude™ in the game industry. Has worked for Westwood Associates/Studios & Insomniac Games as the Audio Lead.

Introductions

- Chris Olander

Primary Sound Designer on Resistance 3 and has been part of the audio team at Insomniac Games for six years.



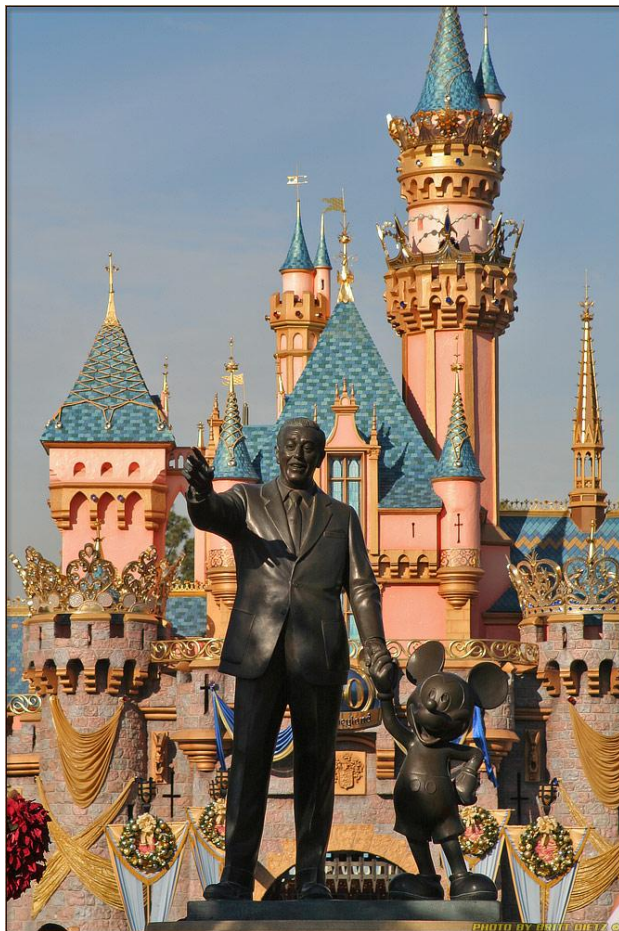




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Key Concepts

- Practical Audio

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- Aggressive Rolloff Ideas

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- Aggressive Rolloff Ideas
- Practical & Traditional Music Uses
- Best Practices – The Mix

What is practical audio?



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- Practical Audio is the term used to describe positional sources of sound that greatly enhance the environment or storytelling aspects of the game experience.

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- Practical Audio is the term used to describe positional sources of sound that greatly enhance the environment or storytelling aspects of the game experience.
- We really lean on these sounds to make the environment feel as immersive as possible.



Practical Audio:

Immersion of the Player

- Audio can be a powerful tool to aid in the storytelling process.

Immersion Broken Down

A busy and noisy public street in Disneyland



Immersion Broken Down

Blue Bayou Restaurant Inside Pirates of Caribbean Ride





Two Soundscapes For The Price Of One!



Immersion Broken Down

The end result is that you are transported
from this...



Innocent youth is actually our Jr. Sound Designer, Dave Nazario

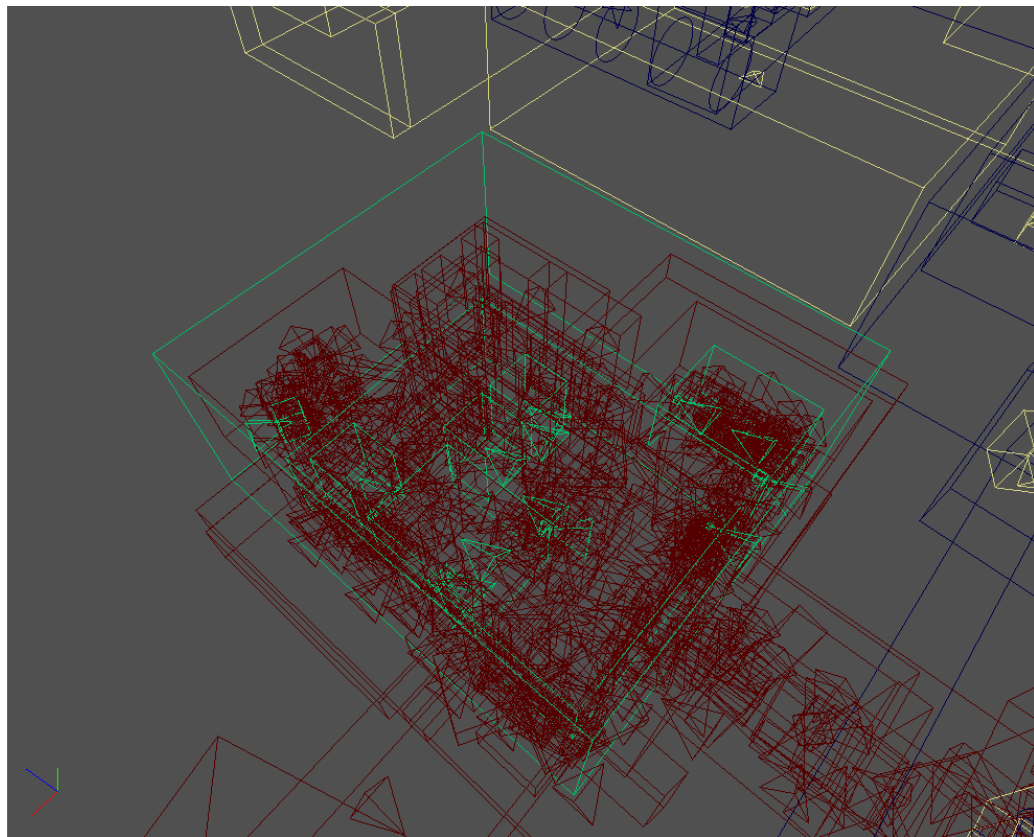


To This...

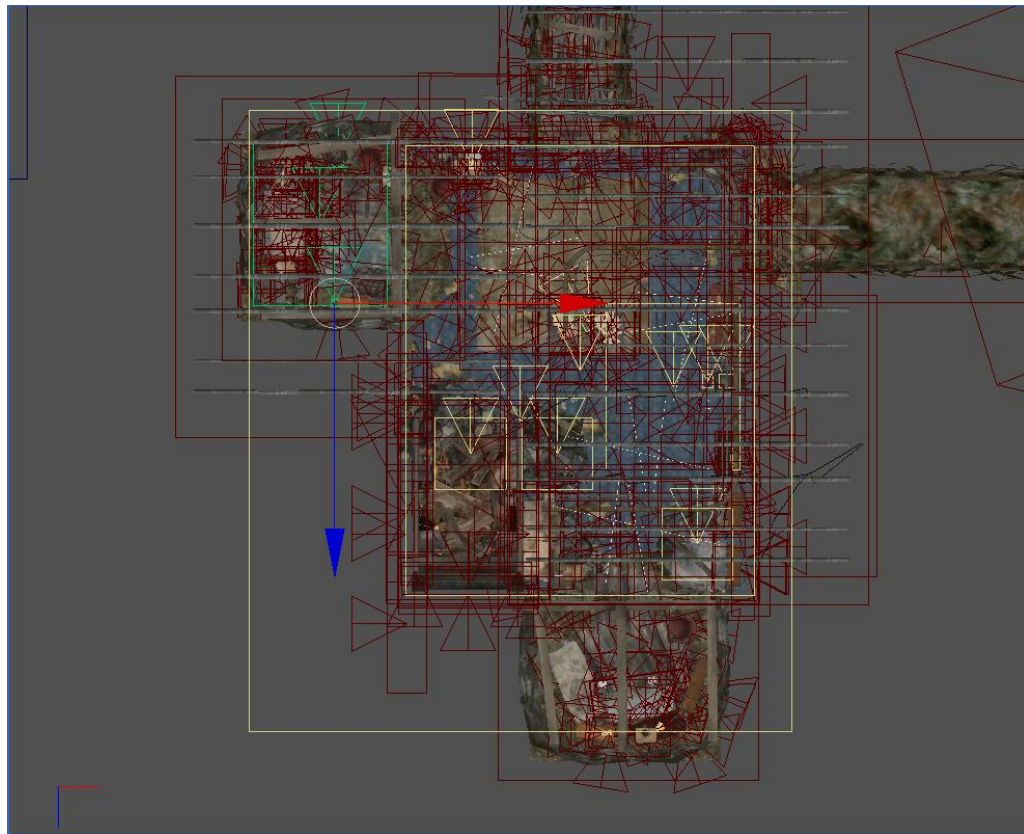


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Look at how we implemented this type of concept in Haven.



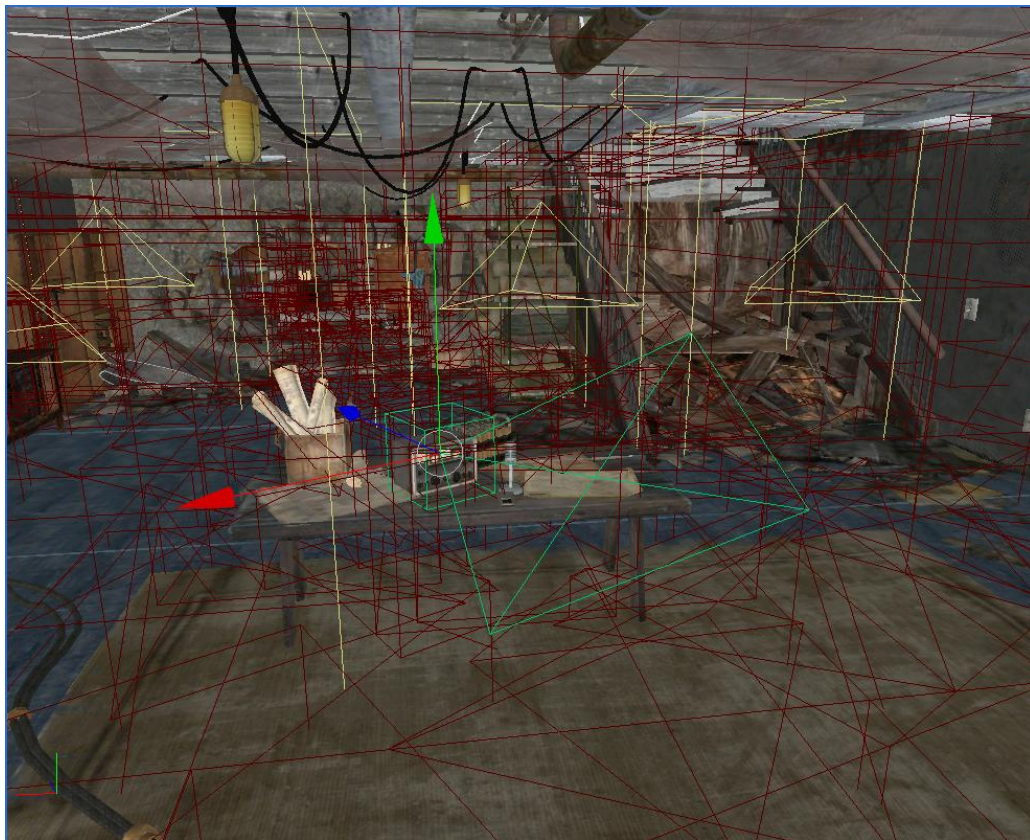
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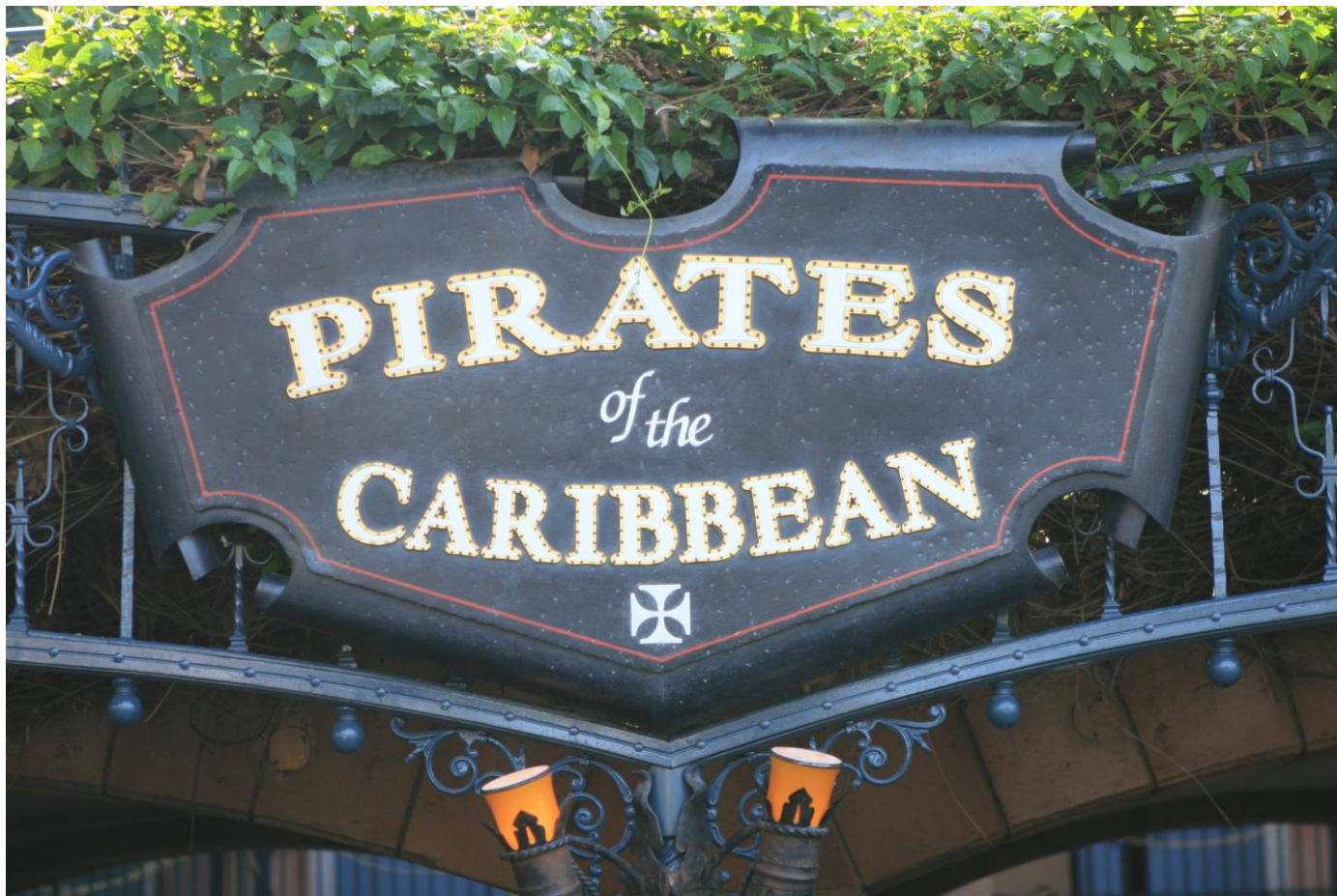
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Putting These Principals Into Practice

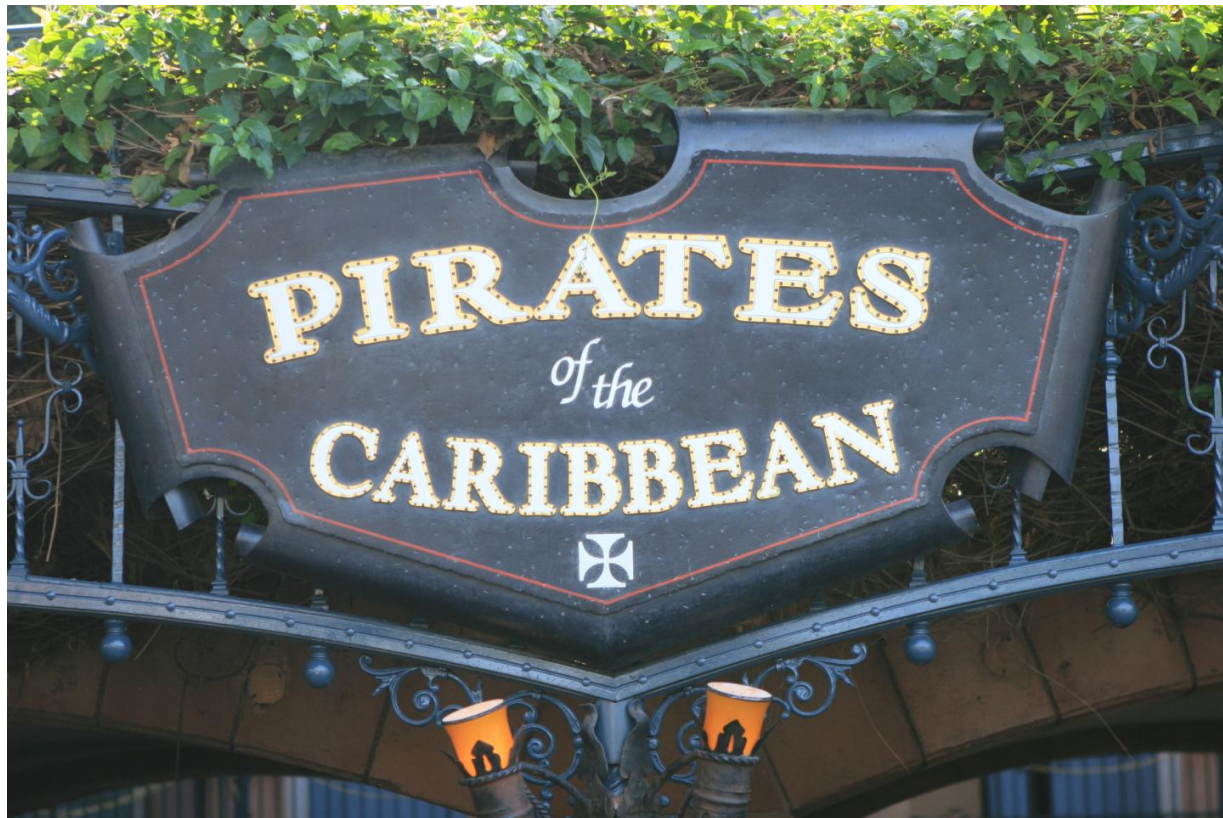












Music





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Practical Music Example 2



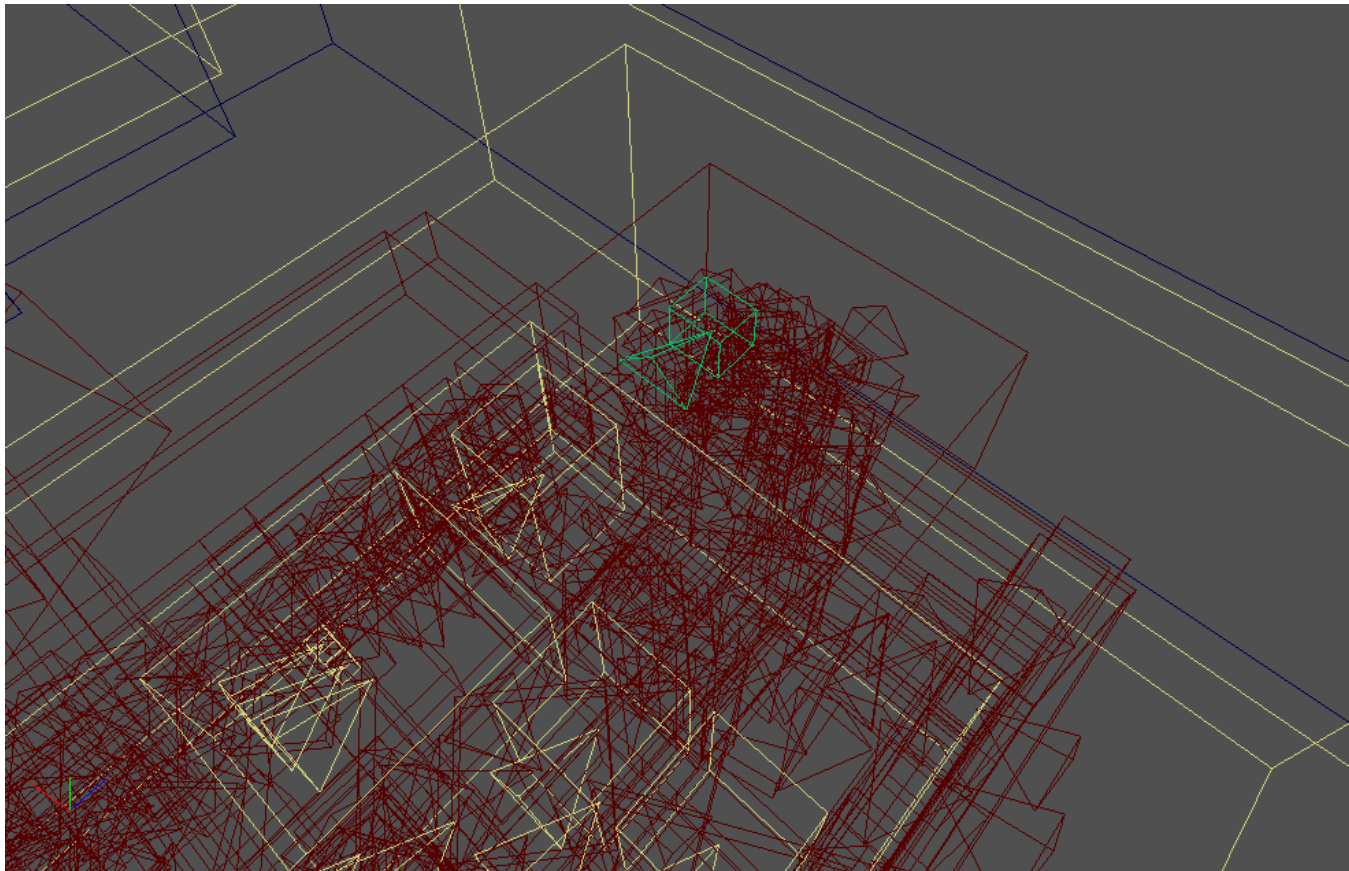
Traditional Music

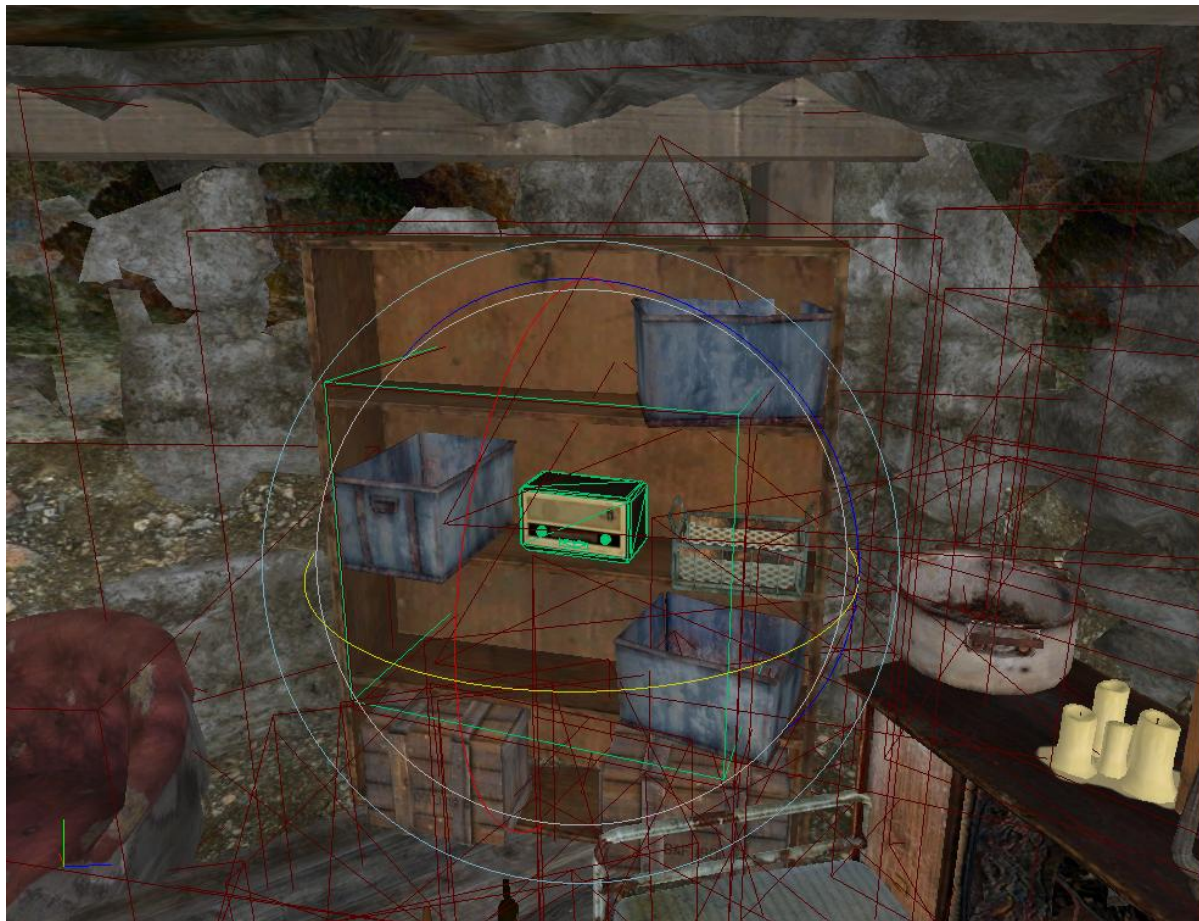


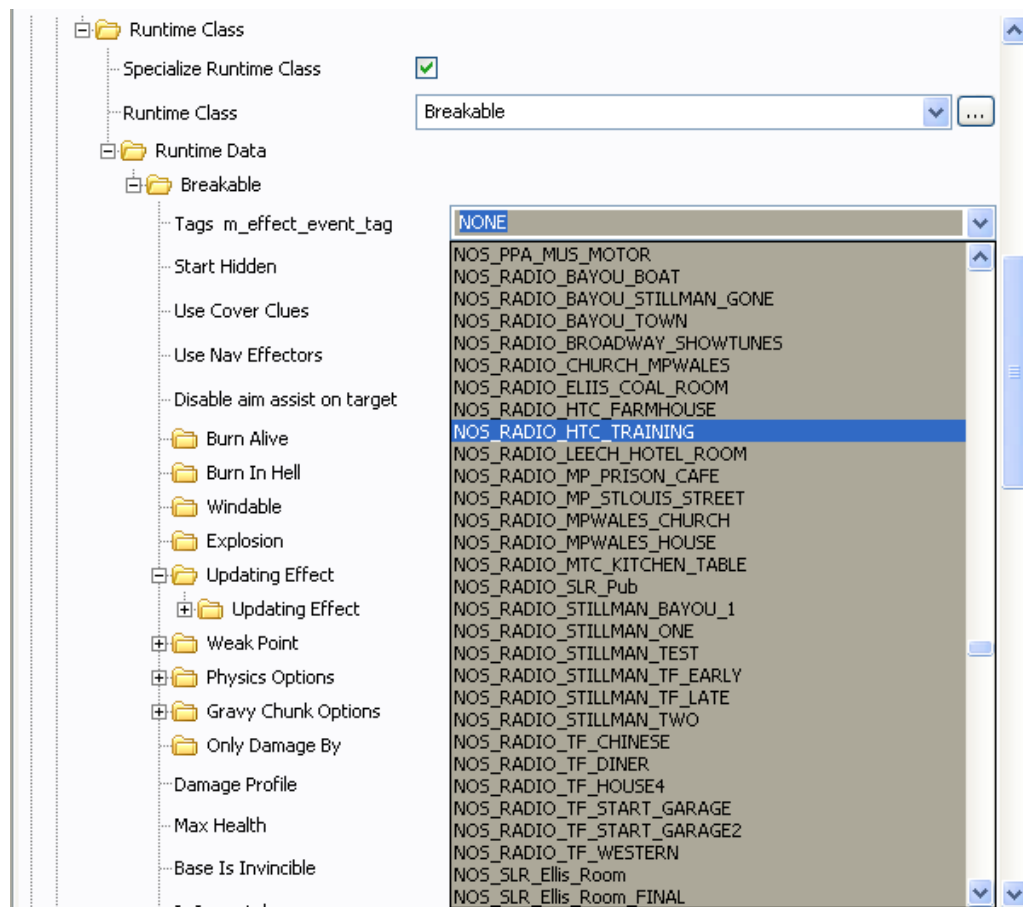


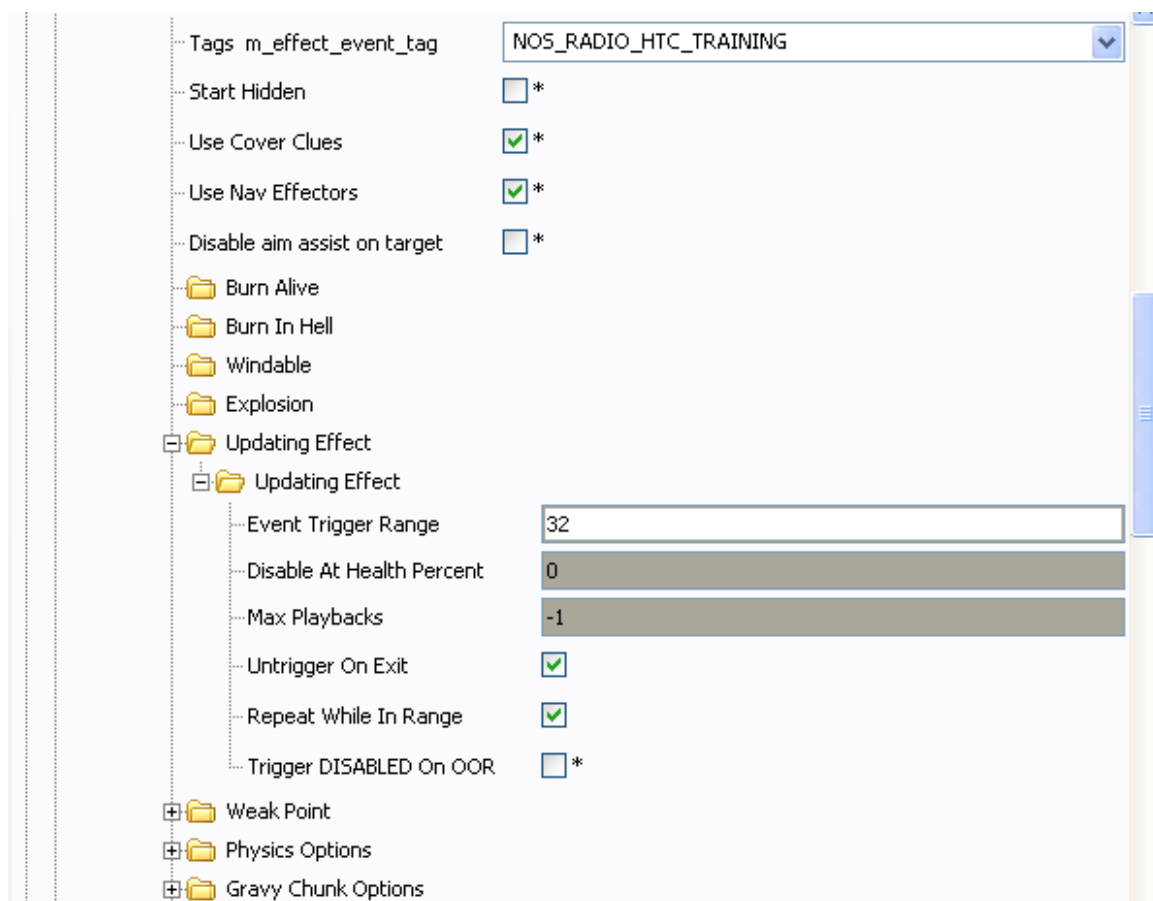
Putting These Principals Into Practice











```
----- MEDIUM INTENSITY Power Plant COMBAT LOOPING Theme -----
if (music_track_request == "Power_Plant_Medium_Intensity_Combat_1") then
    play_music( TrackDDD, 0, true, 6, 15, 0 )
    prt("Playing MEDIUM INTENSITY Combat Theme. REGULAR COMBAT LAYER")
end

----- MEDIUM INTENSITY Power Plant COMBAT LOOPING Theme -----
if (music_track_request == "Power_Plant_Medium_Intensity_Combat_1_RESPAWN") then
    play_music( TrackDDD, 0, true, 1, 15, 0 )

    prt("Playing MEDIUM INTENSITY Combat Theme. REGULAR COMBAT LAYER !!RESPAWN!!")
end

----- HIGH INTENSITY Power Plant COMBAT LOOPING Theme - OPTION #1 -----
if (music_track_request == "Power_Plant_High_Intensity_Combat_1") then
    play_music( TrackEE, 1, true, 0, 6, 0 )
    floor1podcritical = false
    prt("Playing Option 1 HIGH INTENSITY Combat Theme. NOW THE ACTION LAYER")
end

----- HIGH INTENSITY Power Plant COMBAT LOOPING Theme - OPTION #1 -----
if (music_track_request == "All_Zombies_Dead") then
    play_music( TrackFF, 1, true, 0, 3, 0 )
    play_music( TrackCC, 0, true, 6, 2, 0 )
    prt("Stinger into basement music again.")
end

----- HIGH INTENSITY Power Plant COMBAT LOOPING Theme - OPTION #2 -----
if (music_track_request == "Power_Plant_High_Intensity_Combat_2") then
    play_music( TrackGG, 0, true, 1, 15, 0 )
    play_music( TrackHH, 1, true, 20, 9, 0 )
    playerrushes thesecondfloor = true
    on_elapsed (2,
        function()
            floor2podcritical = false
        end)

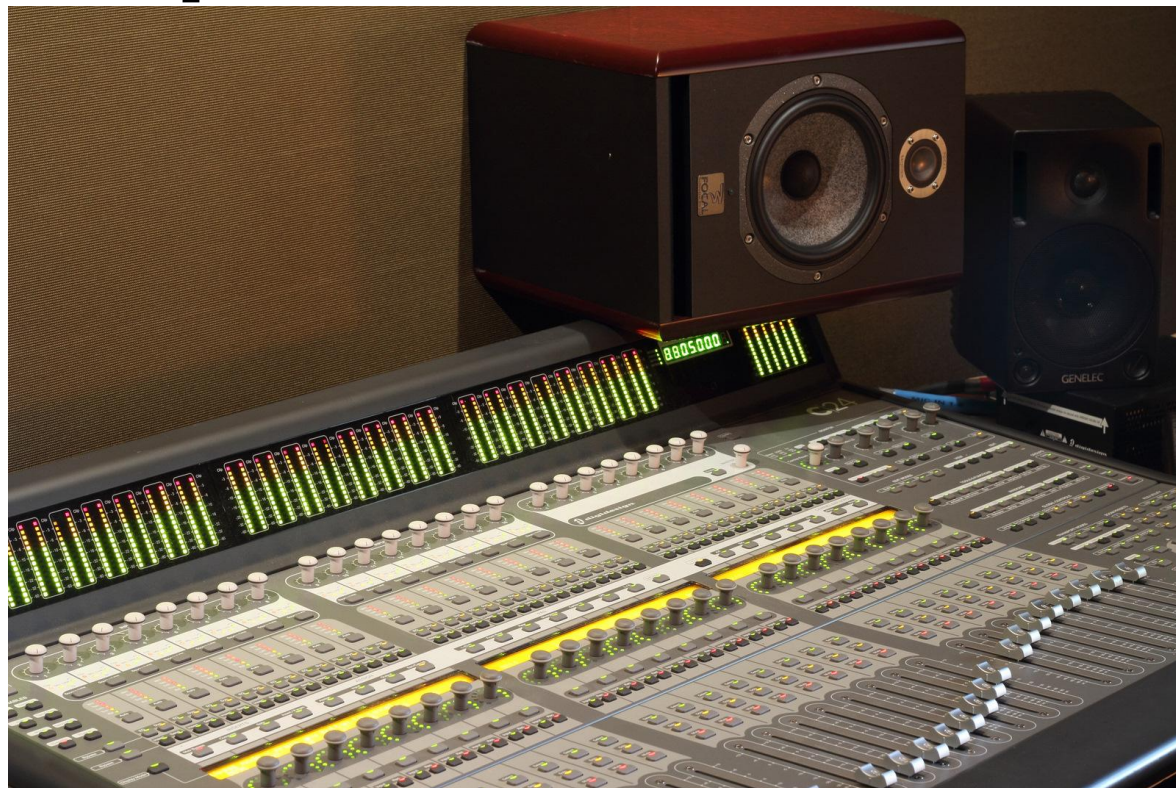
    prt("Playing Option 2 HIGH INTENSITY Combat Theme.")
end
```



```
-----  
function PowerPlant2ndFloorWave2 ()  
  
    prt ( "PowerPlant2ndFloorWave2 - triggered" )  
    set_setup_name ( "PowerPlant2ndFloorWave2" )  
  
    --Only trigger this if you haven't lowered the bridge, otherwise, you will get attacked from both fronts  
    if not vProtoBridgeLowered then  
  
        if not vPowerPlant2ndFloorWave2 then  
            vPowerPlant2ndFloorWave2 = true  
            if get_num_alive ( pod_enemies ) < 16 then  
                for i = 1, 2 do  
                    if is_valid ( table_Spawn2ndFloorWave2[i] ) then  
                        trigger ( table_Spawn2ndFloorWave2[i] )  
                    end  
                end  
                on_elapsed ( 3, AddGrimPodGrims_to_Pod )  
                request_music_track ( "Power_Plant_Medium_Intensity_Combat_1" )  
  
                on_elapsed ( 1,  
                    function ()  
                        on_num_alive ( pod_PowerPlant2ndFloor, 3,  
                            function ()  
                                set_skirmish_roles ( pod_PowerPlant2ndFloor, 2, 0, 1 )  
                            end )  
                    end )  
            end  
        end  
    end  
end  
end  
end
```



Best practices and mixing



```
--this controls sounds in all the projectile groups.
LM_sfx_PROJECTILES =
{
    SoundGroups.SOUND_GROUP_EX_SFX_PROJECTILE_BYS,
    SoundGroups.SOUND_GROUP_EX_SFX_PROJECTILE_HIT_RICOCHET,
    SoundGroups.SOUND_GROUP_EX_SFX_PROJECTILE_HIT_FOLEY,
    SoundGroups.SOUND_GROUP_EX_SFX_PROJECTILE_EXPLOSION,
    SoundGroups.SOUND_GROUP_EX_SFX_PROJECTILE_LOOPING,
}

-- this controls sounds in the non projectile explode group, which for us is all our "regular, non huge, non player explosions".
LM_sfx_EXPLOSIONS_REG =
{
    SoundGroups.SOUND_GROUP_EX_SFX_NONPROJECTILE_EXPLODE,
}

-- this controls the sfx extra large group which is now the "big explosions group".
LM_sfx_EXPLOSIONS_BIG =
{
    SoundGroups.SOUND_GROUP_EX_SFX_EXTRA_LARGE,
}

LM_sfx_Unused =
{
    SoundGroups.SOUND_GROUP_EX_UNUSED,
}

--! END PROJECTILE/EXPLOSION GROUPS

--* ***** *--
--*  PLAYER GROUPS /PLAY *--
--* ***** *--

-- this controls the groups dealing with player weapons.
LM_sfx_PLAYER_WEAPONS =
{
    SoundGroups.SOUND_GROUP_EX_SFX_PLAYER_WEAPON_FIRE,
    SoundGroups.SOUND_GROUP_EX_SFX_PLAYER_WEAPON_FOLEY,
}
```



```
on_elapsed(0.25,
function()
    play_cinematic("nyt_f_freefall_rt")
    -- leave seats
    on_elapsed(2,
        function()
            hero_exit_seat(CABLE_HANG_3, CABLE_HANG_4)
            hero_upside_down_hack(POD_PLAYER, false)
        end)
end)
on_elapsed(6.8, function ()
    sound_group_fade(LM_sfx_INGAME_CINE, -100, .2)
    sound_group_fade(LM_sfx_PROJECTILES, -100, .2)
    sound_group_fade(LM_sfx_ENEMY_WEAPON, -100, .2)
    sound_group_fade(LM_mus_MUSIC, -100, .2)
    sound_group_fade(LM_sfx_PLAYER_WEAPONS, -100, .2)
    sound_group_fade(LM_sfx_PROPS_AND_BREAKABLES, -100, .2)
    sound_group_fade(LM_sfx_PROJECTILES, -100, .2)
    sound_group_fade(LM_dia_DIALOGUE, -100, .2)
    sound_group_fade(LM_sfx_PLAYER_FOLEY, -100, .2)
    sound_group_fade(LM_sfx_PLAYER_WEAPONS, -100, .2)
    sound_group_fade(LM_sfx_ENEMY_FOLEY, -100, .2)
    prt("sound_group_fade(LM_sfx_INGAME_CINE, -75, .2) from g freefall ln 325")
end)
on_elapsed(10.2, function ()
    sound_group_fade(LM_sfx_INGAME_CINE, -8, 6)
    sound_group_fade(LM_sfx_PROJECTILES, 0, 6)
    sound_group_fade(LM_sfx_ENEMY_WEAPON, 0, 6)
    sound_group_fade(LM_mus_MUSIC, 0, 6)
    sound_group_fade(LM_sfx_PLAYER_WEAPONS, 0, 6)
    sound_group_fade(LM_sfx_PROPS_AND_BREAKABLES, 0, 6)
    sound_group_fade(LM_sfx_PROJECTILES, 0, 6)
    sound_group_fade(LM_dia_DIALOGUE, 0, 6)
    sound_group_fade(LM_sfx_PLAYER_FOLEY, 0, 6)
    sound_group_fade(LM_sfx_PLAYER_WEAPONS, 0, 6)
    sound_group_fade(LM_sfx_ENEMY_FOLEY, 0, 6)
    prt("sound_group_fade(LM_sfx_INGAME_CINE, -8, 2.6) from g freefall ln 327")
end)
request_music_track("free_fallin")
```



Questions?



Special Thanks

- Disneyland for inspiration

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- Any developer outside of Audio that actually plays the game with sound enabled

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