GDC | March 20-24, 2023
San Francisco, CA

‘Dark Pictures: Season 1’
4 games in 4 years
Audio Systems for Narrative Horror

Barney Pratt MPSE AMPS
Senior Audio Director – Supermassive Games

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Audio Team

- 18 + talented individuals
- Composer

Supermassive Games

- BAFTA-winning
- Founded in 2008
- 350+ talented individuals
- Based in Guildford, UK
- Critical acclaim
- Cinematic and VR
- Multiplatform, multiformat
- UK charities - GamesAid

Supermassive Games

'The Dark Pictures - The Devil In Me' (PS4, XB1, PC, PS5, XS, XX)
- GANG | Best Game Foley - Nom
- GANG | Best Audio for a Casual or Social Game - Nom
- GANG | Best Game Audio Article or Publication – Nom

'The Dark Pictures - House of Ashes' (PS4, XB1, PC, PS5, XS, XX)
- NAVGTR | Outstanding Sound Editing in a Game Cinema - Nominee
- TIGA | Creativity in Games - WINNER

'The Dark Pictures - Little Hope' (PS4, XBONE, PC)
- **NAVGTR | Outstanding Sound Editing in a Game Cinema - WINNER**
- TIGA | Game of the Year - WINNER
- TIGA | Social Game - WINNER
- GIGA | Audio Technology - Nom
- GANG | Creative and Technical Achievement in Sound Design - Nom
- GANG | Dialogue of the Year - Nom
- GANG | Best Ensemble Cast Performance - Nom
- Develop | Best Narrative - Nom
- Develop | Game of the Year - Nom

'The Dark Pictures - Man of Medan' (PS4, XBONE, PC)
- BAFTA | Performance in a supporting role - AYISHA ISSA as Fliss - Nom
- MCV Develop | Narrative Innovation of the Year - WINNER
- Game Audio | Best Sound Design - Nom
- TIGA | Best Social - WINNER
- TIGA | Best Audio Design - Nom

'Hidden Agenda' (PS4 Playlink launch title)
- TIGA | Best Social - WINNER
- Gamescom | Best Casual - WINNER
- Games Radar + E3 | Best of E3 - WINNER
- Games Critics | Best Family / Social - WINNER

'Until Dawn: Rush Of Blood' (PSVR launch title)
- Develop | Best performance - WINNER
- Develop | Sound design - Nom

'Tumble VR' (PSVR launch title)
- TIGA | Puzzle Game - WINNER

'Until Dawn' (PS4)
- BAFTA | Original Property - WINNER
- BAFTA | British Game - Nom
- BAFTA | Game Innovation - Nom
- BAFTA | Story - Nom
- G.A.N.G. | Audio of the year - FINALIST
- TIGA | Action / Adventure - WINNER
- TIGA | Audio Design - Nom
- Develop | Audio Accomplishment - Nom
- NAVGTR | Use of Sound, New IP - Nom

The Dark Pictures Anthology

- Interactive branching horror
- Wildly different narratives
- Exploration gameplay
- Single / two / multiplayer, online / offline couch co-op
- 8 + games in total

TDP – Season 1 – 4 games in 4 years

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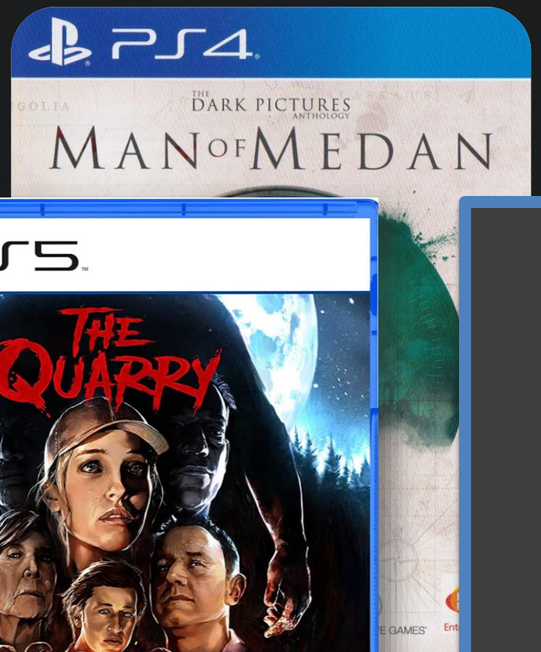
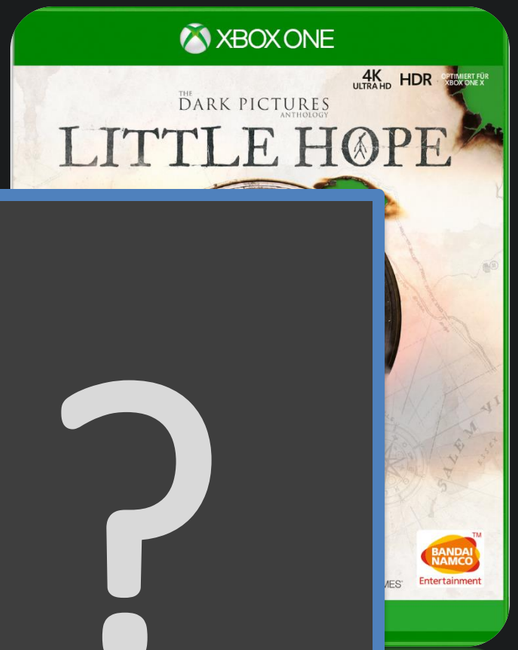
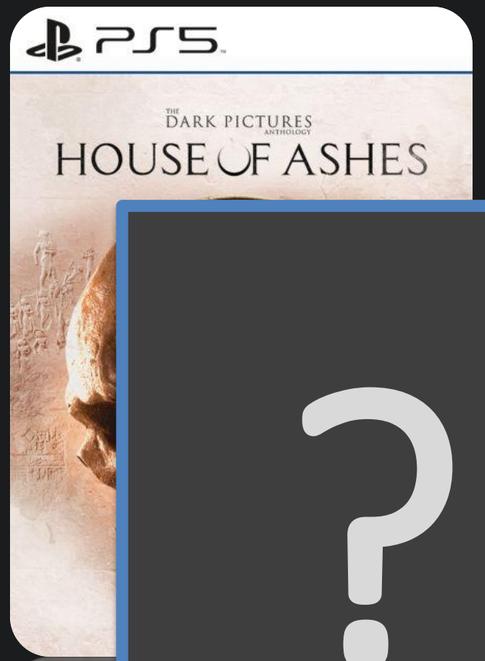






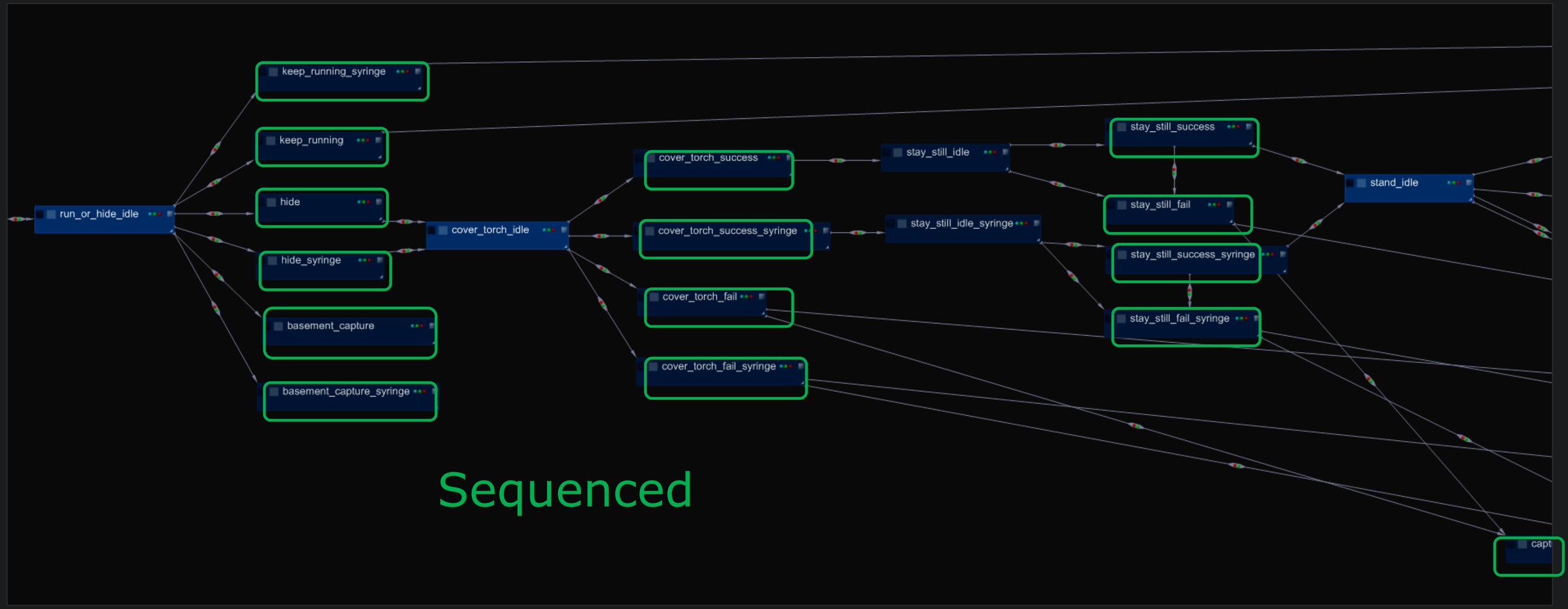
TDP – Season 1 – 4 games in 4 years

Talk overview

Plan:

- Branching narrative design
- Procedural foley / character sound
- Creature foley
- Worldizing | Attenuations
- Interactive mix
- Directional microphone
- Diegetic Music and Score

TDP – Branching narrative



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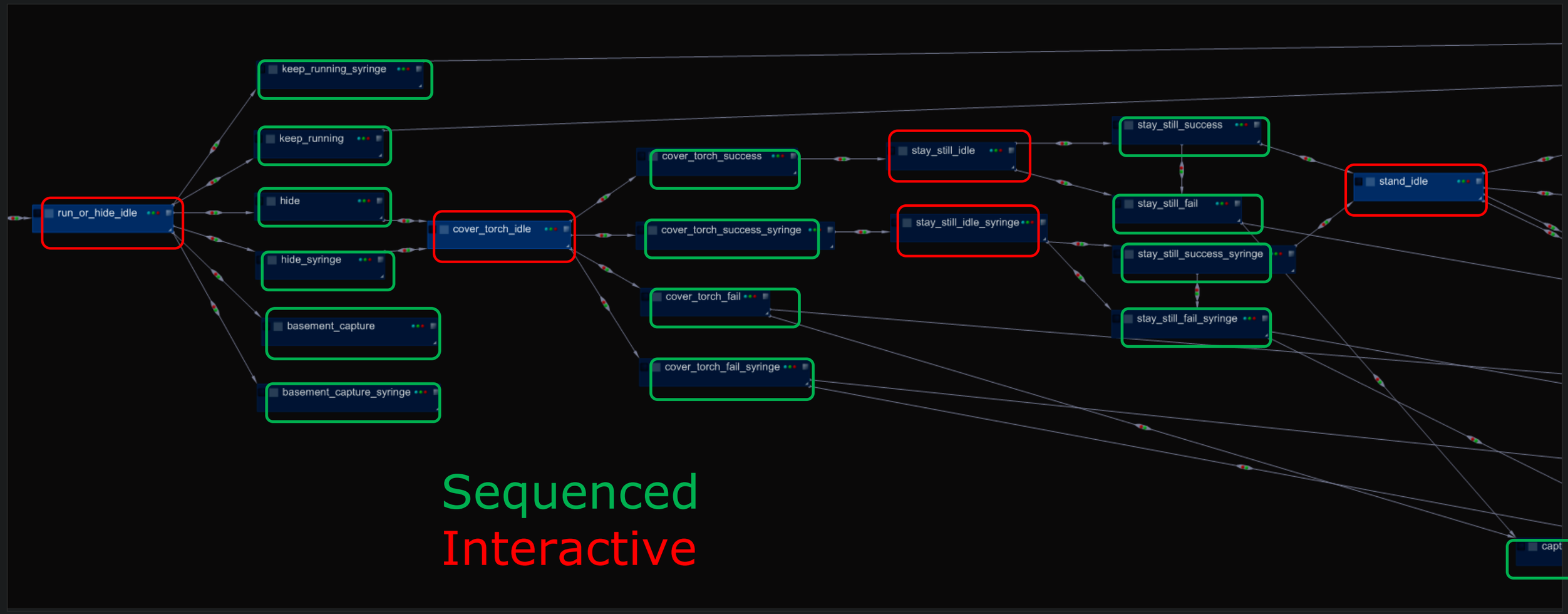
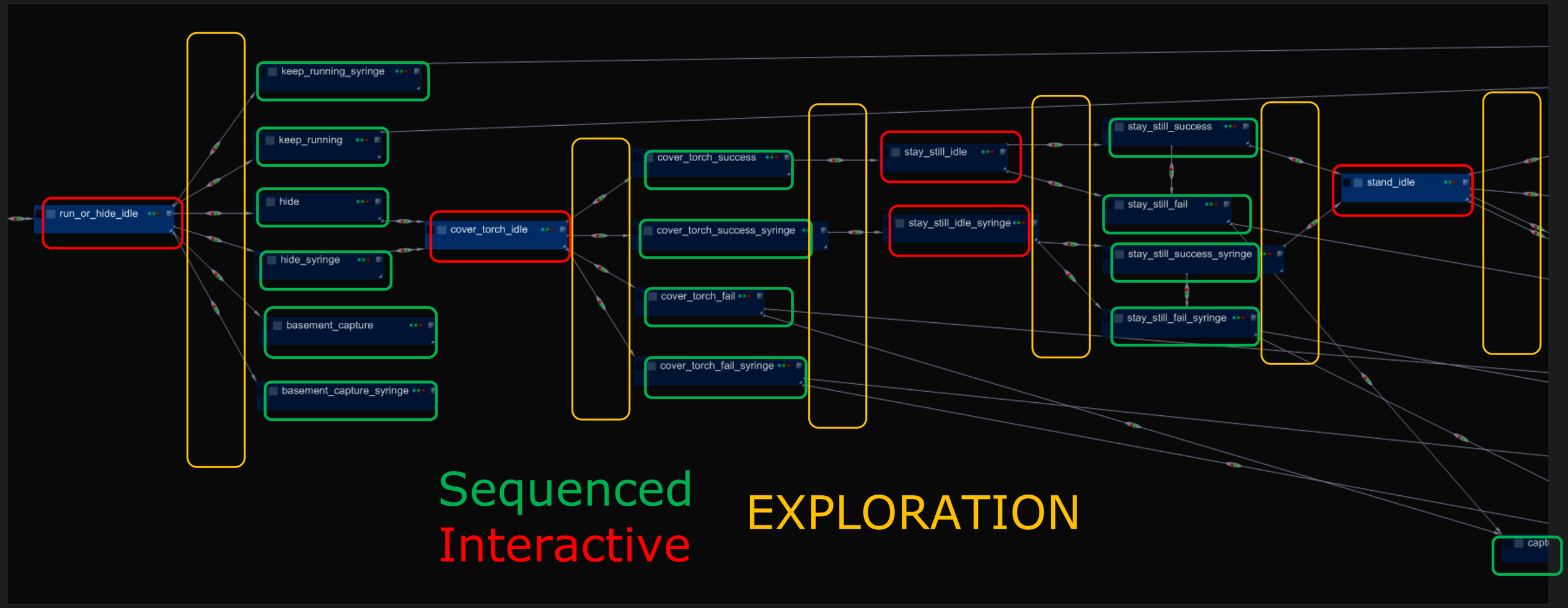
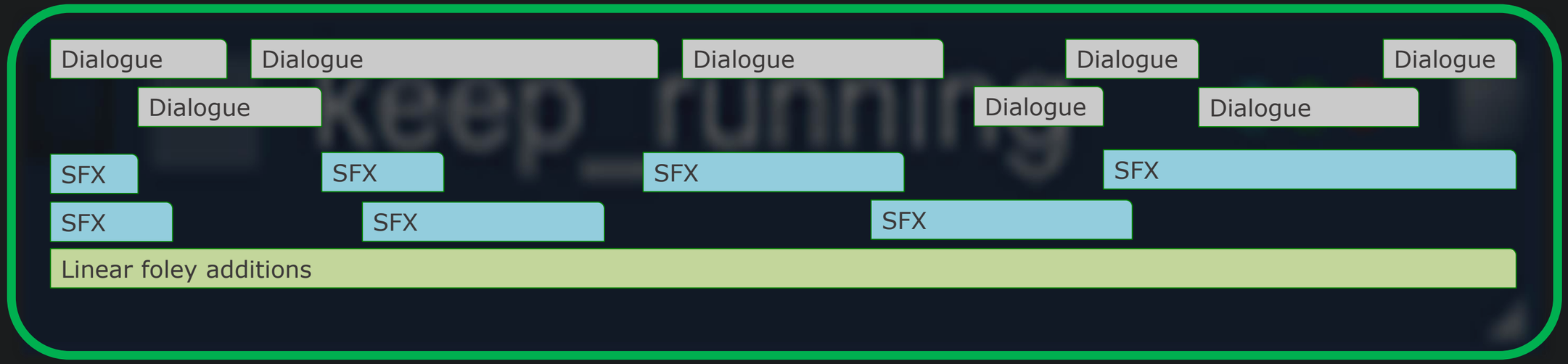


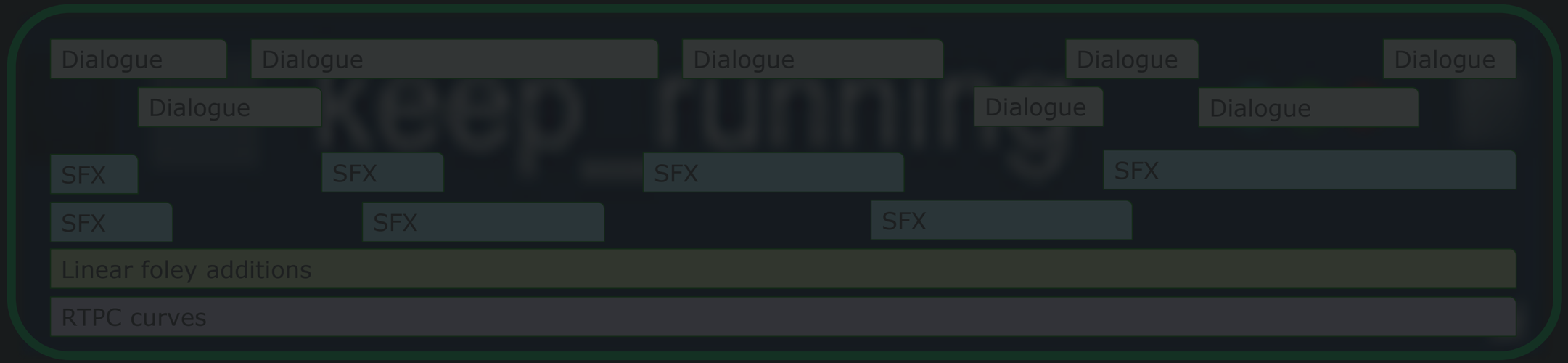

run_or_hide_idle
keep_running_syringe
keep_running
hide
hide_syringe
basement_capture
basement_capture_syringe
cover_torch_idle
cover_torch_success
cover_torch_success_syringe
cover_torch_fail
cover_torch_fail_syringe
stay_still_idle
stay_still_idle_syringe
stay_still_success
stay_still_fail
stay_still_success_syringe
stay_still_fail_syringe
stand_idle
capt
Sequenced
Interactive
EXPLORATION

TDP – Sequenced

Sequenced



TDP – Sequenced and Systemic



Systemic audio

- Character breaths
- Atmospheres - beds and spots
- Music and Sound Design

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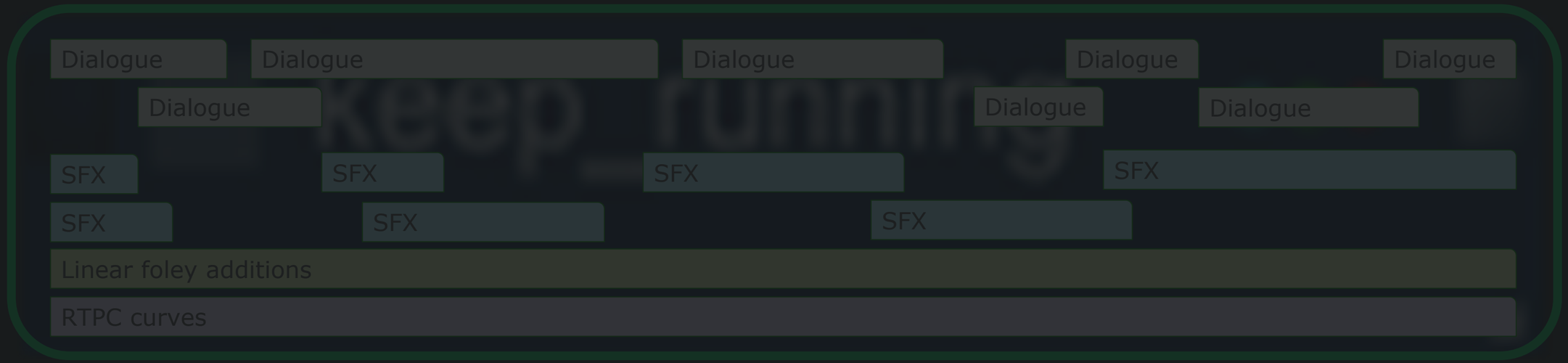

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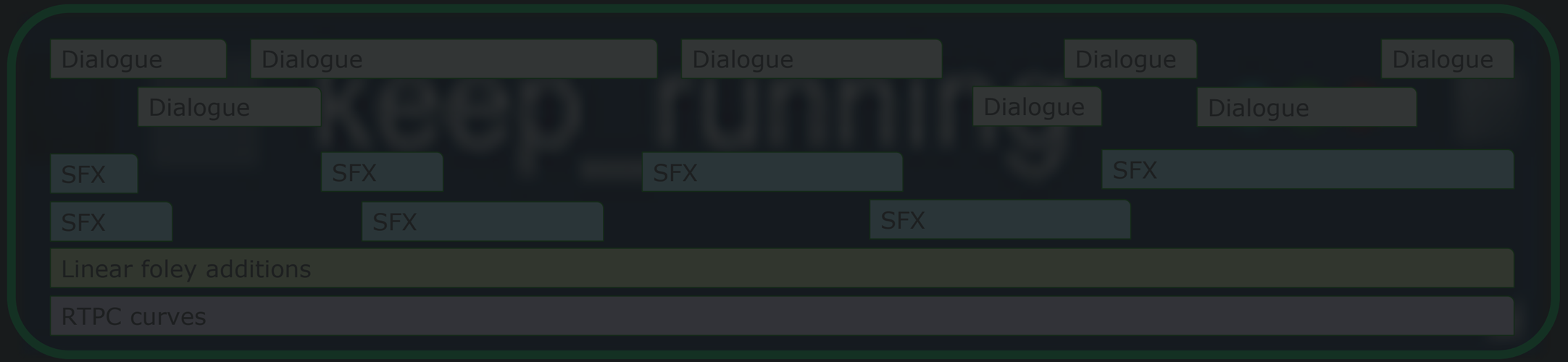

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Procedural Foley – Believable characters

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House of Ashes:

- Set at the close of Iraq War May 2003
- American Special forces searching for WMD
- Buried Sumerian temple
- Unearthly Creatures

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Procedural Foley – Believable characters

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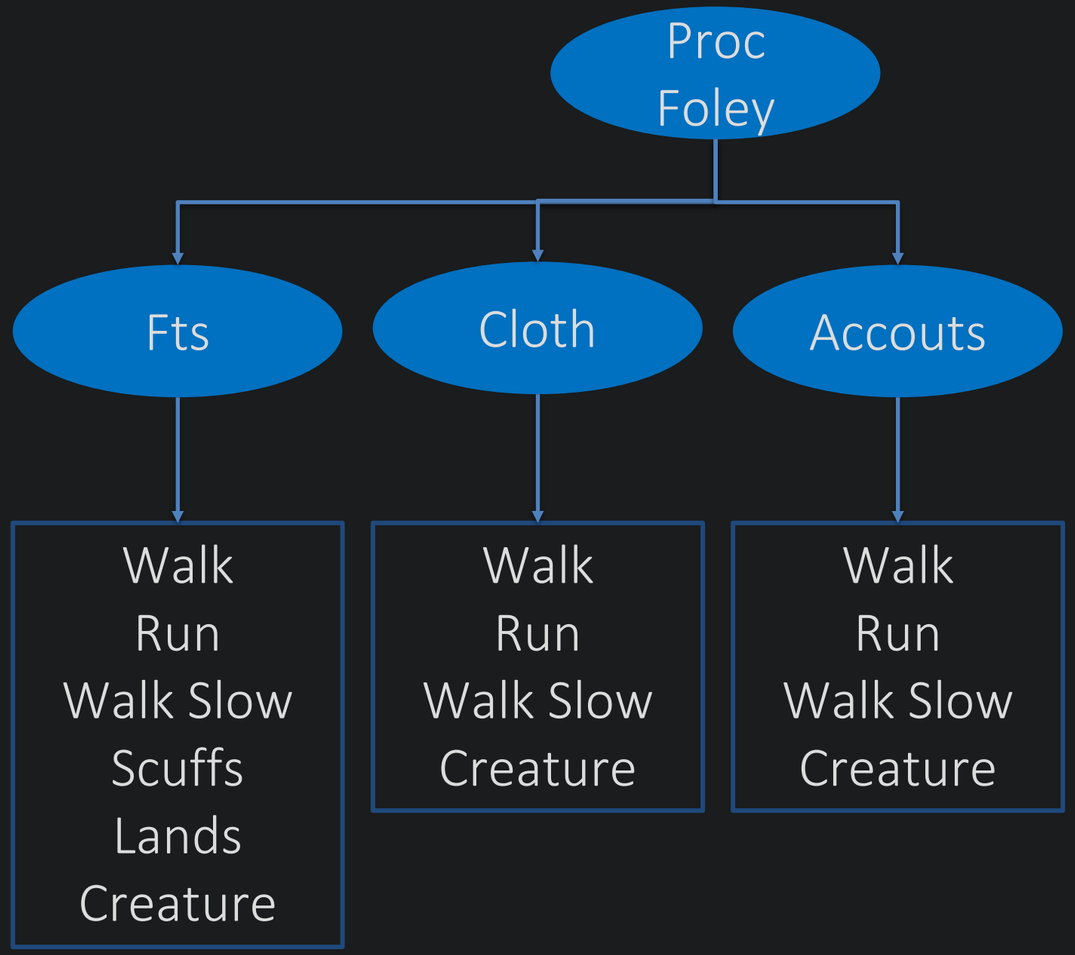
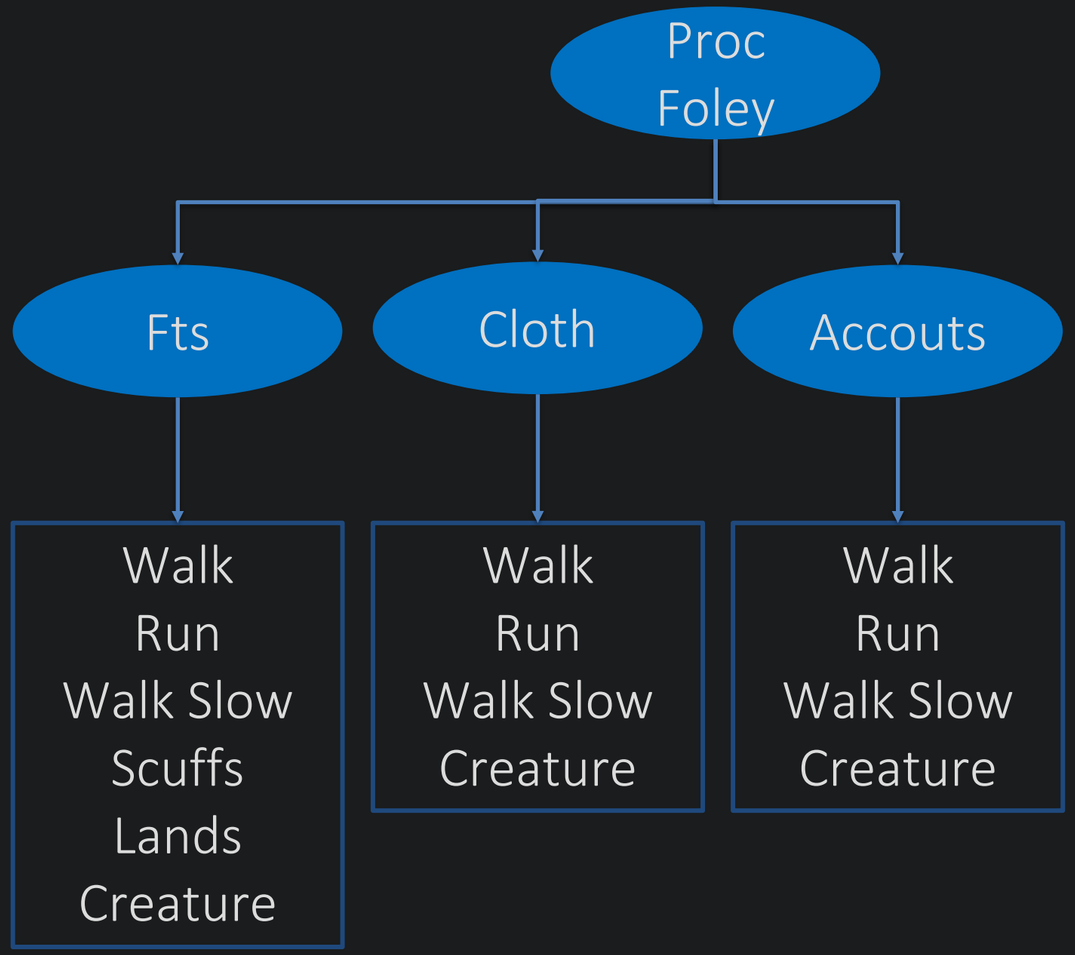
Why procedural?

- Majority of foley covered
- Easier finalling – 1 year dev cycle
- Time / money / stress saver
- Win for multiple projects
- Essential for linear and exploration consistency (guns)

Procedural Foley – Believable characters



Procedural Foley – Believable characters



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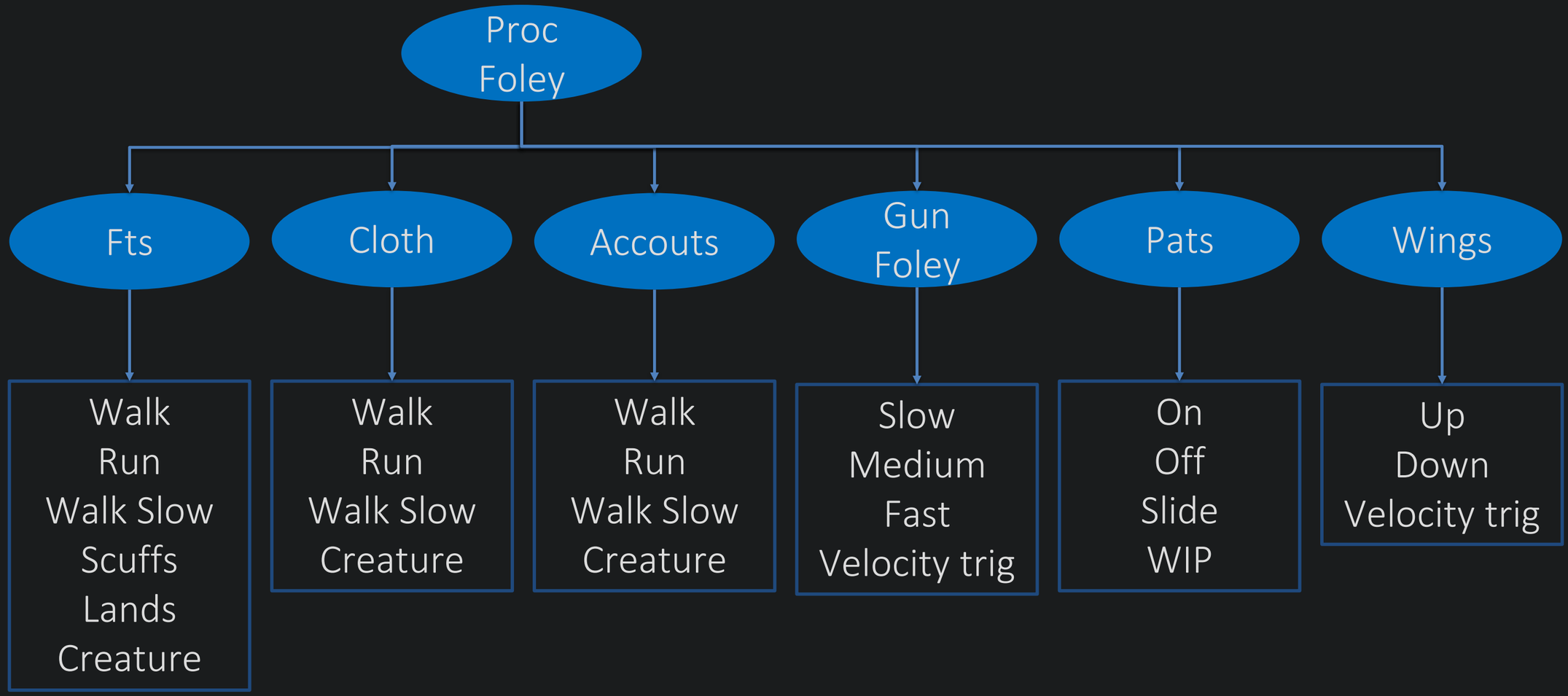

Head Emitter
Dialogue Emitter
Chest Emitter
Hand Right Emitter
Hand Left Emitter
Knee Emitter
Foot Left Emitter
Foot Right Emitter

NB: Spatial audio

Wwise:

- Convolution reverb
- Spatial volumes
- Portals
- Diffraction
- Reflekt

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- Portals
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- …respect the CPU!

NB: Spatial audio

- 8 emitters per character
- Multiple characters = 1000s of API calls

(50 enemy soldiers, 11 friendlies, 8 Vampires)

- Switches, RTPC values and Game calls
- PLUS the spatial audio
- Too expensive for CPU
- So…

Procedural Foley – Culling system

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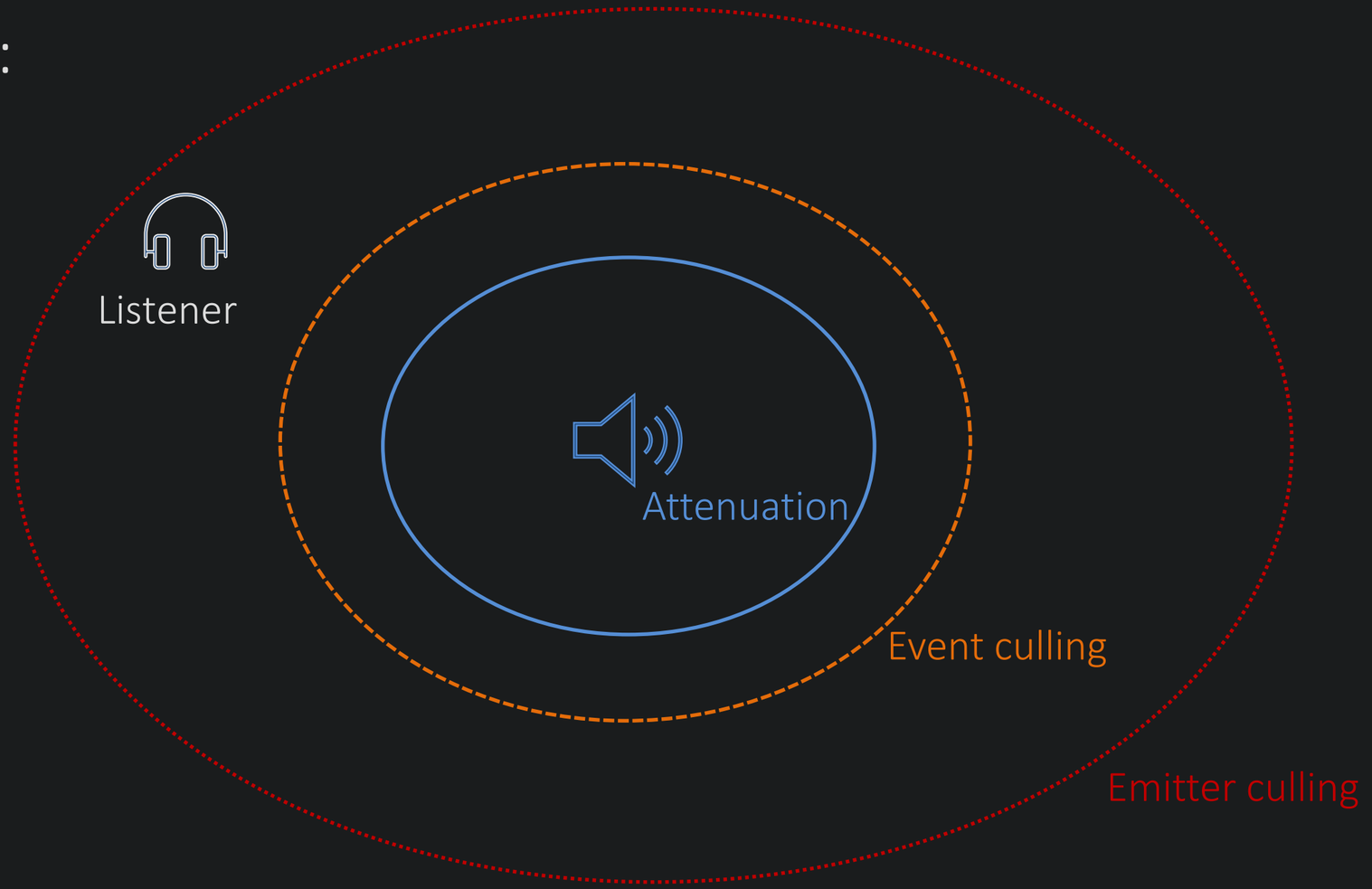
(50 enemy soldiers, 11 friendlies, 8 Vampires)

- Switches, RTPC values and Game calls
- PLUS the spatial audio
- Expensive for CPU
- So…
- Event culling
- Emitter culling

Procedural Foley – Culling system

Individual emitters settings:

- Distance thresholds
- Max attenuation
- Platform specific
- Reduced API calls



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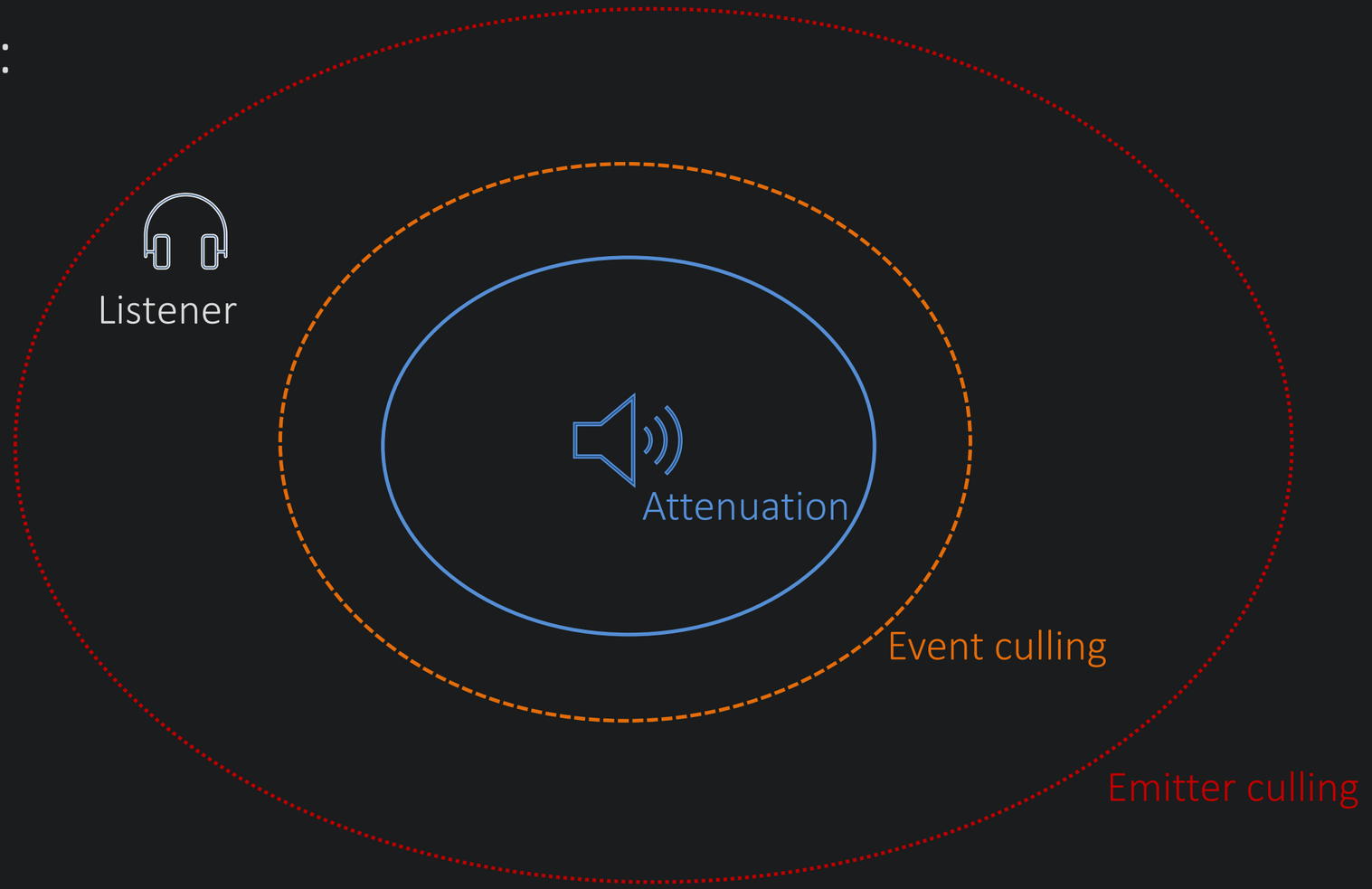

Procedural Foley – Demos

Footsteps:

- Anim notifiers – not viable in 1 year cycle
- Flexible – Mocap | Loco
- Motion considerate – RTPC controlled
- Speed / scuffs / lands
- Overlay detection

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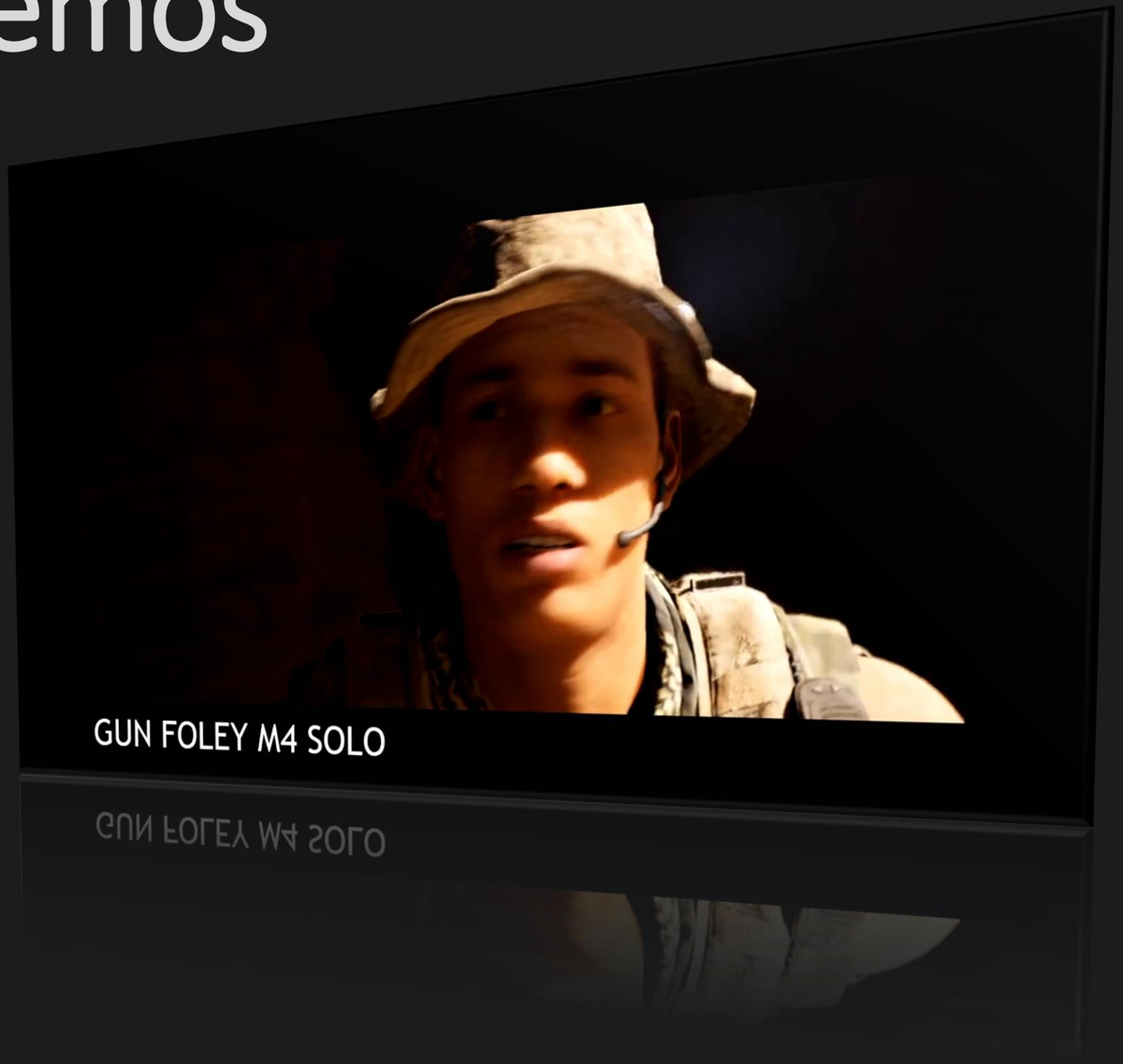
Procedural Foley – Demos

Handling:

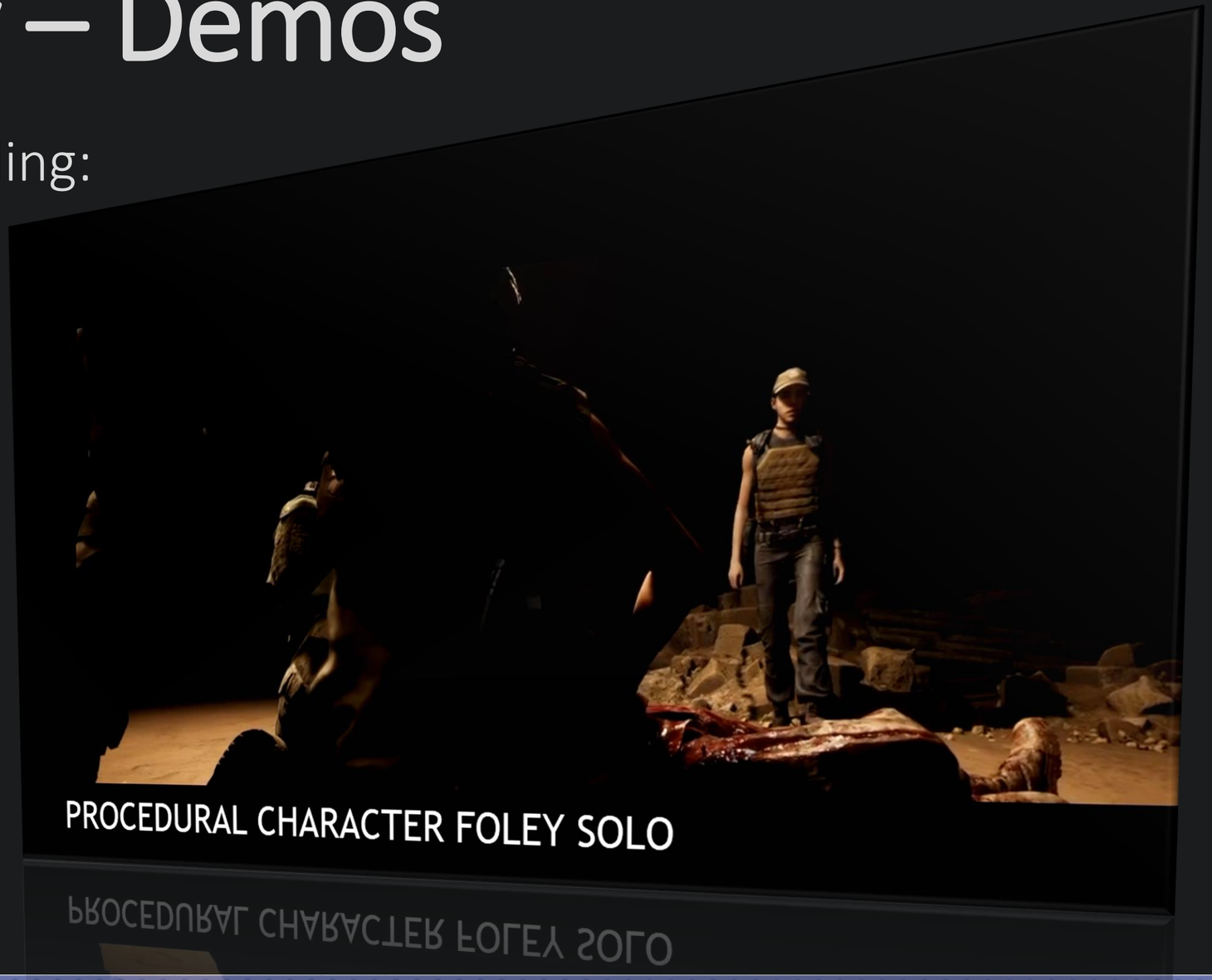
- Gun foley - Bespoke for HOA
- Prop handling - interactions
- Hand Pats – surface specific



Procedural Foley – Demos

Full systemic character foley adding:

- Cloth
- Accouts
- Creature fts
- Creature wings

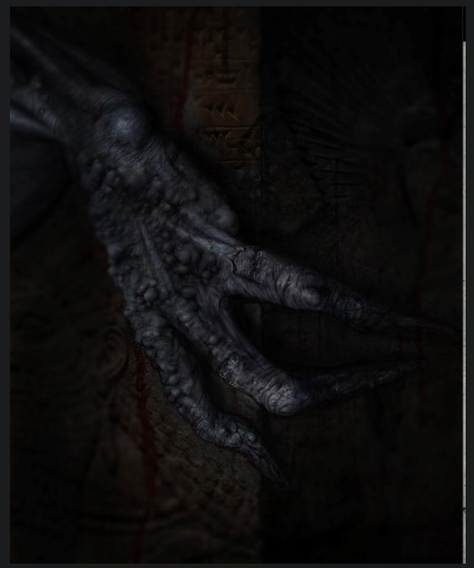


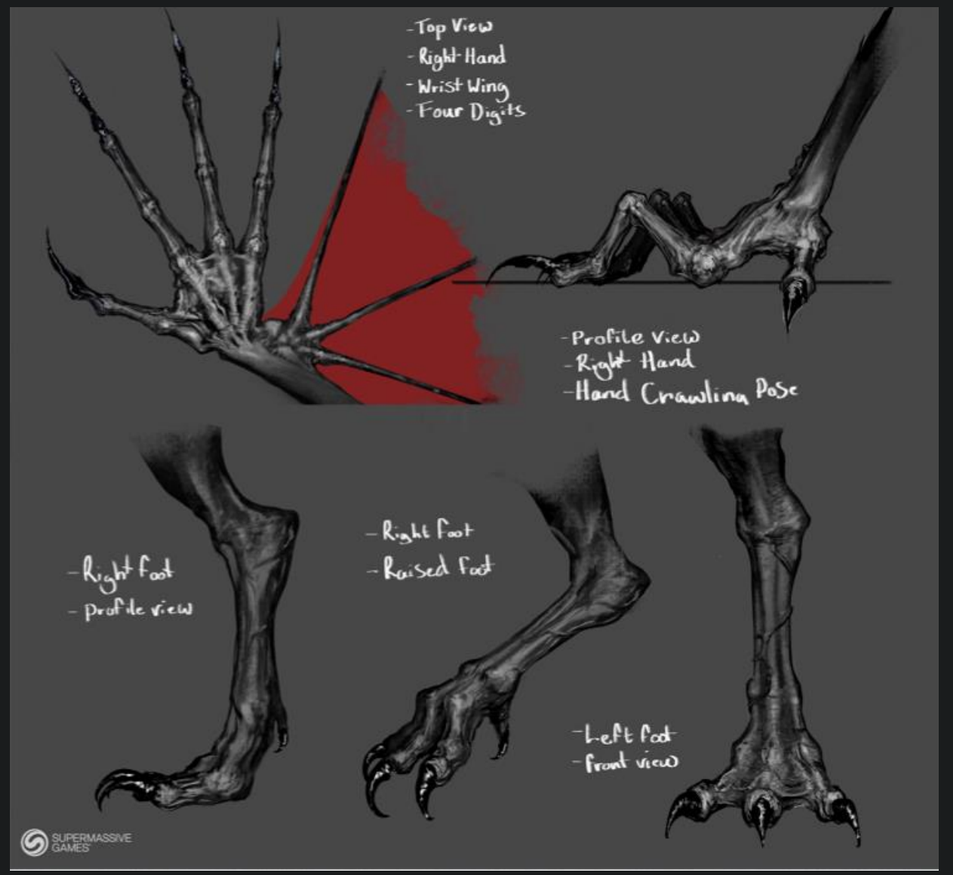
Procedural Foley – Creature

Why procedural creature?

- A lot of screen time - multiples
- Track-lay NOT an option (1000+ unique sequences)
- Infinite range – mix of mocap and keyframe animation

Procedural Foley – Creature





Procedural Foley – Creature

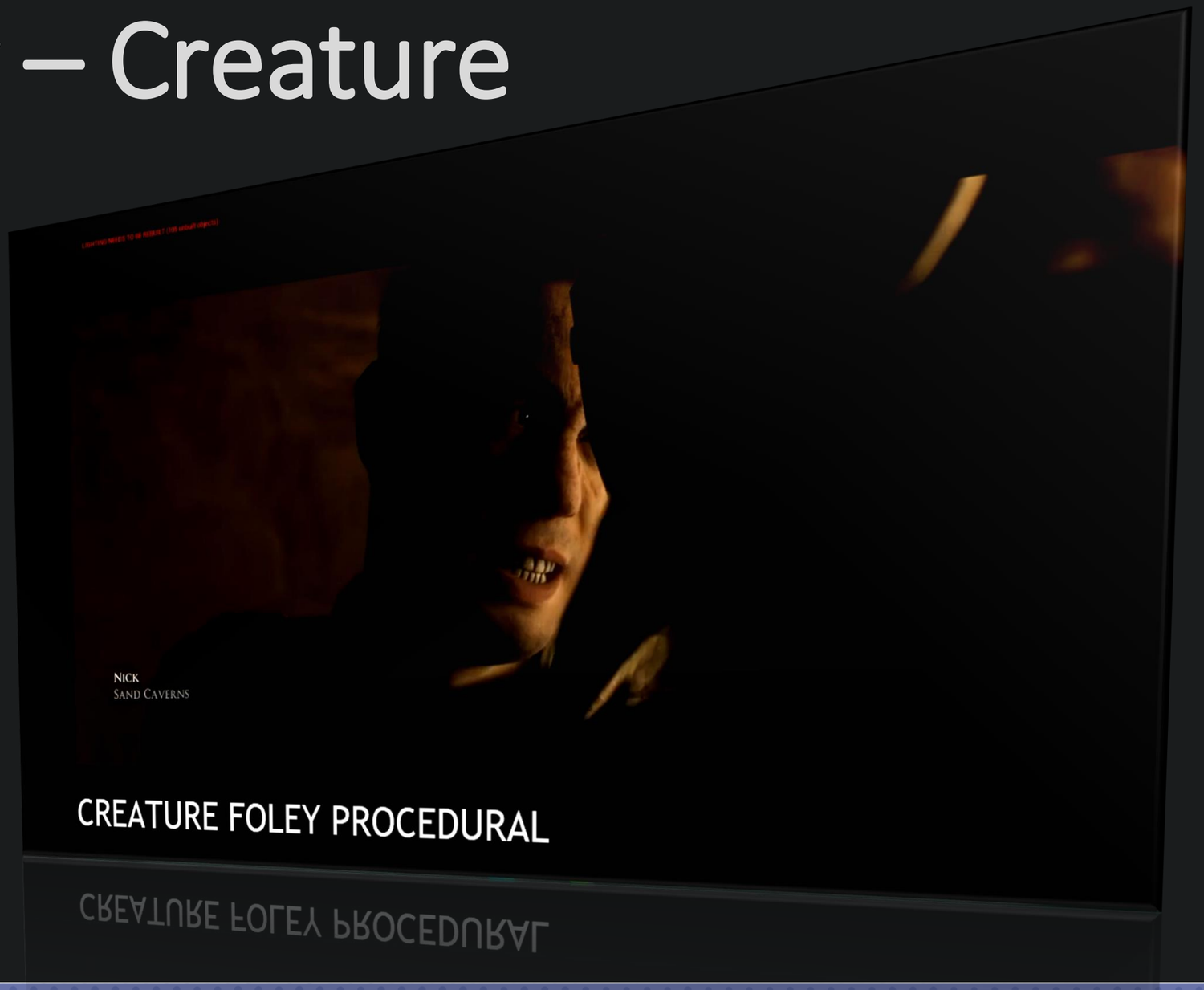
Walk cycle:

- Quadra-ped
- Hind legs like a horse
- Horizontal walk
- Wings
- Also flying version

Procedural Foley – Creature

Solutions:

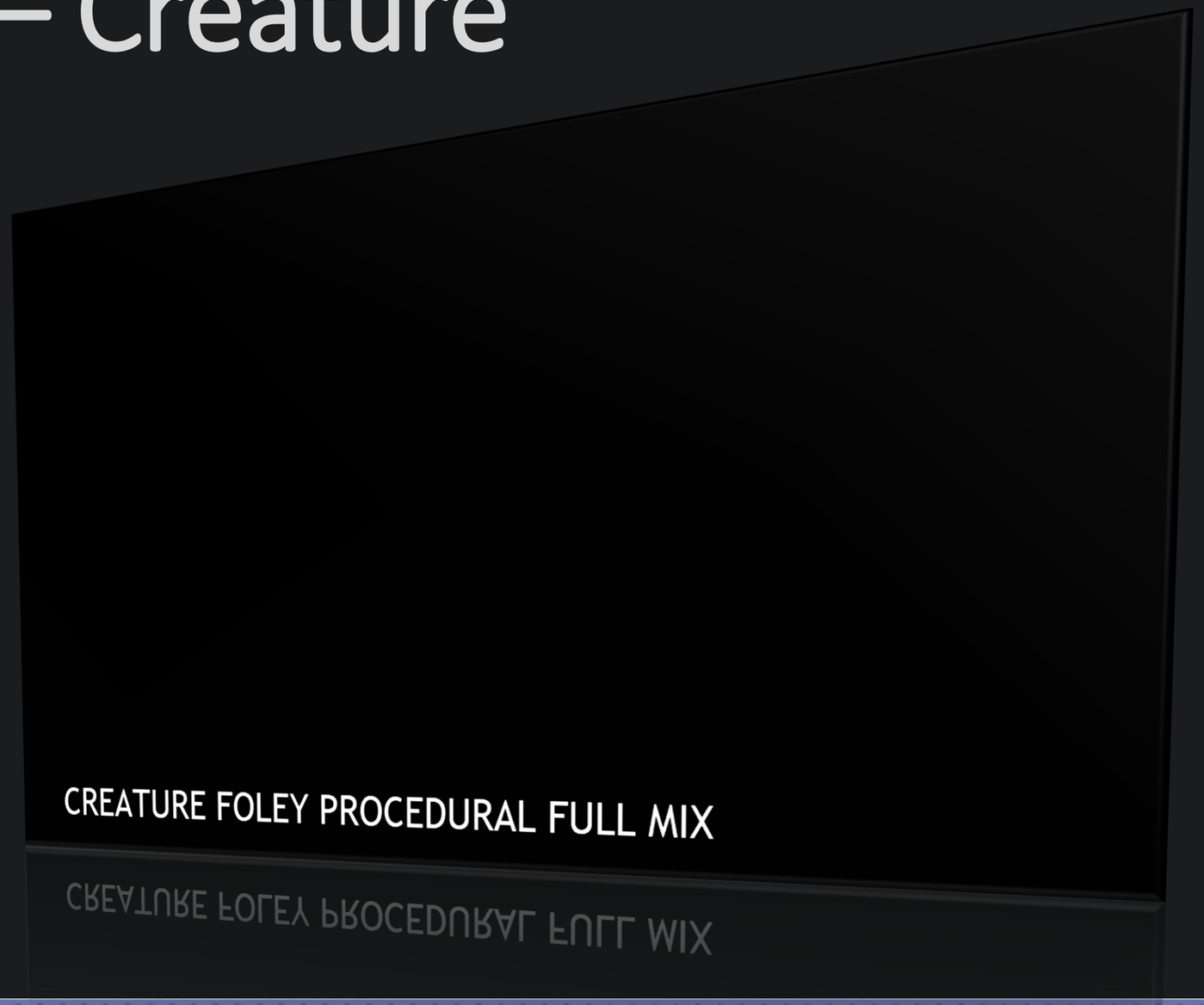
- Adapted human fts
- Adapted human cloth
- Wings new implementation
- Subtlety!!



Procedural Foley – Creature

Solutions:

- Full mix



Interactive Mix

- Full runtime mix
- Same for exploration and sequenced (same assets)
- Side-chain mix
- Attenuations
- Detachable listener
- 50% centre bias panning

Interactive Mix

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- Clear focused mix
- Maintain immersion

Interactive Mix – 50% centre bias

Cinematic third person:

- Lots of camera cuts
- Dialogue and foley
- Harsh panning and volume cuts (5.1)

Option 1 – centre speaker only

- Safe but lifeless
- Lacked directionality

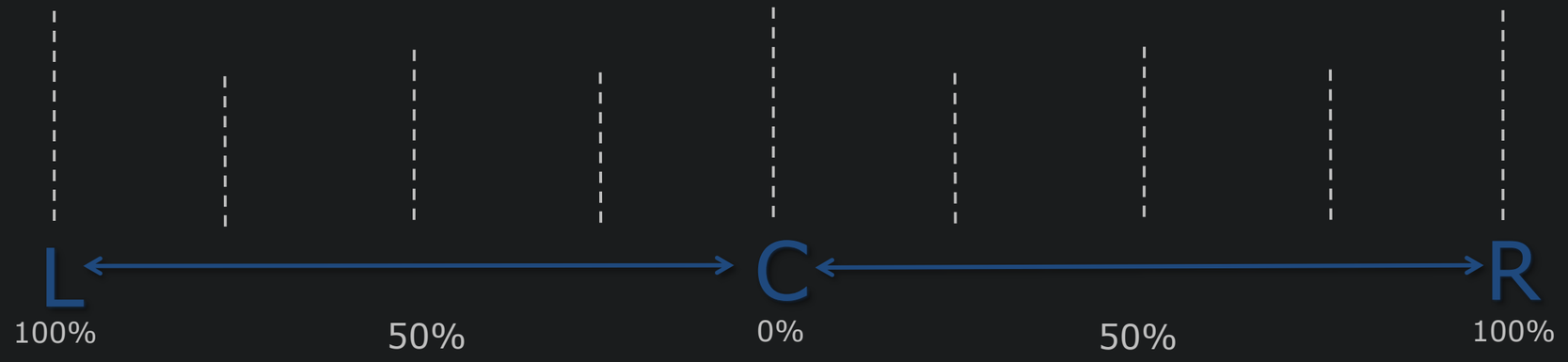
Option 2 – full 5.1 surround pan

- Great directionality…
- Resulting harsh cuts

Interactive Mix – 50% centre bias

Solution?

- Compromise between the two options
- Bias (not constrain) all character sound to C



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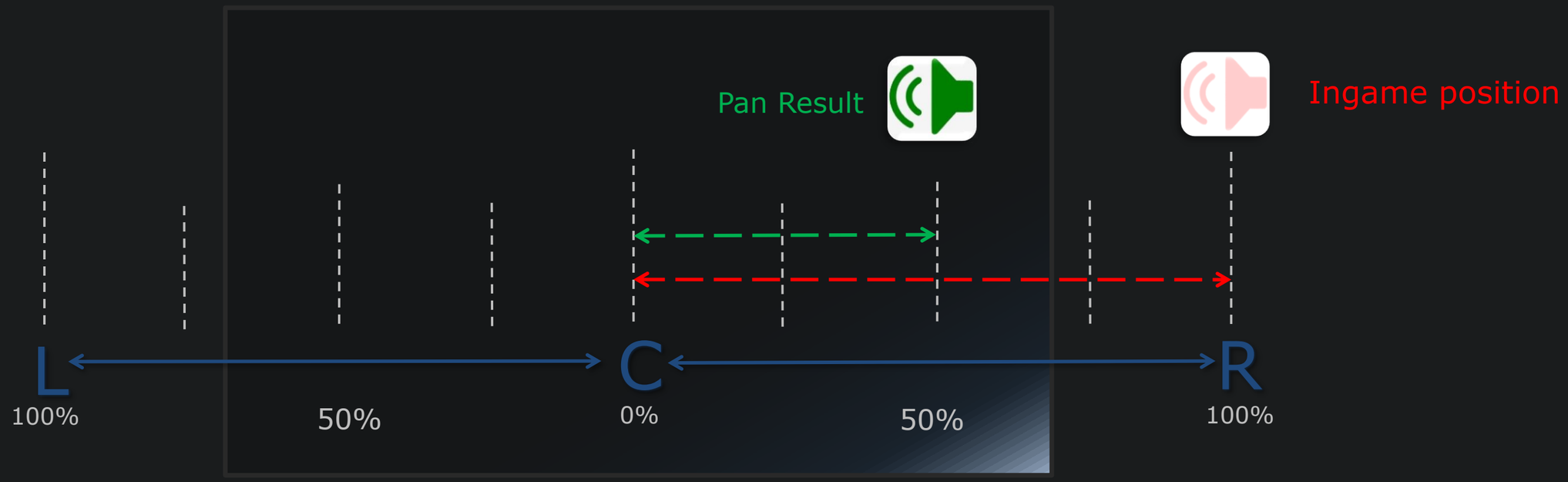

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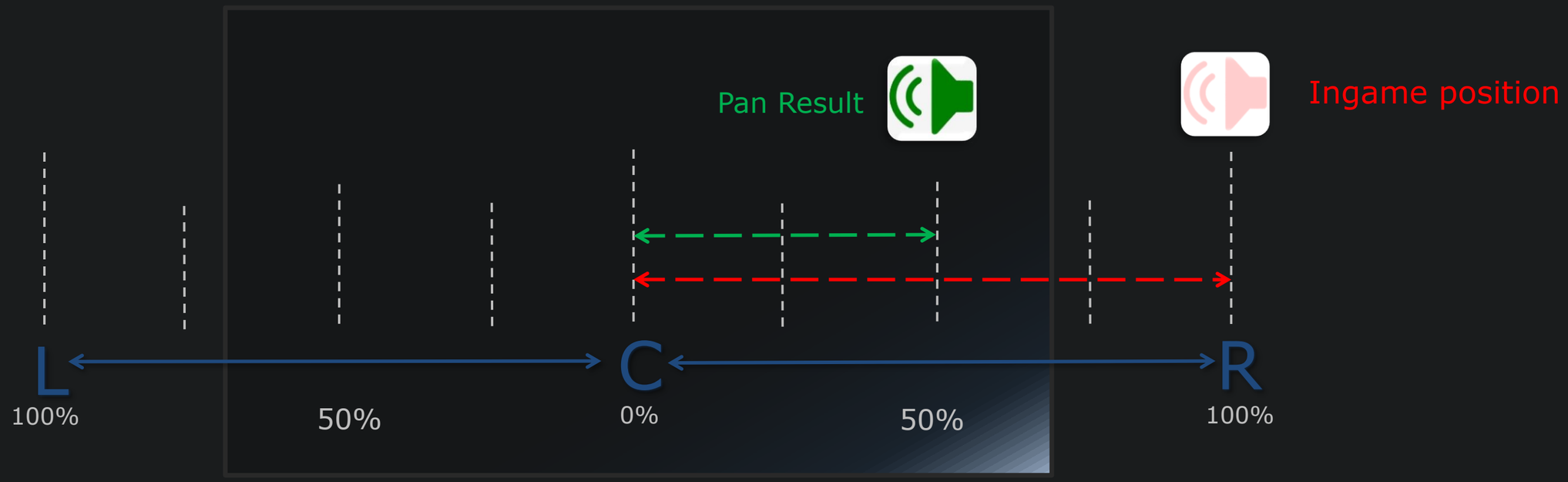

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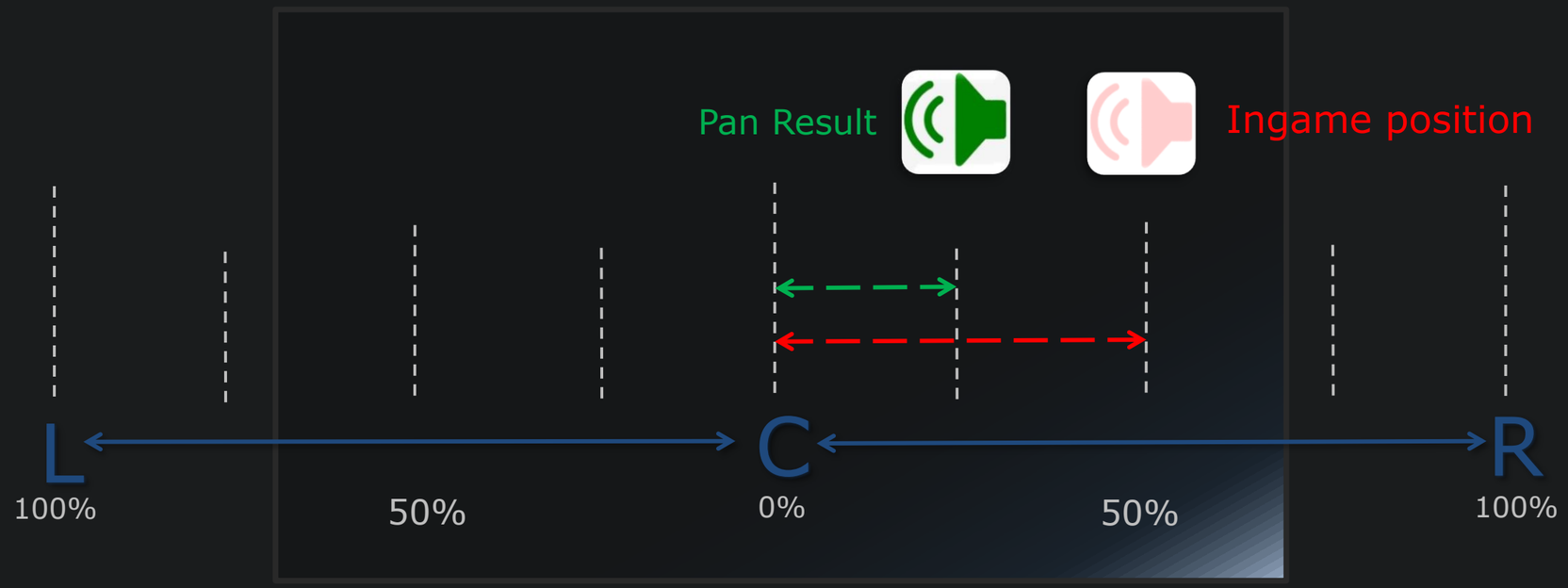

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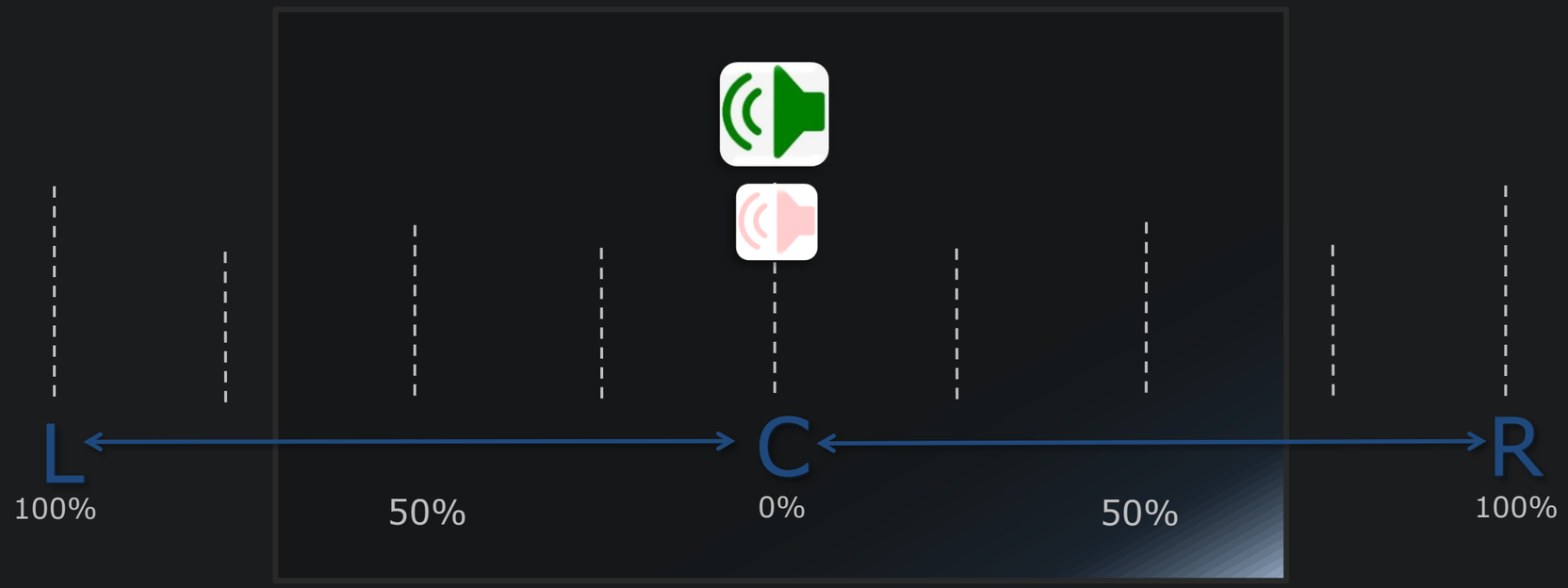

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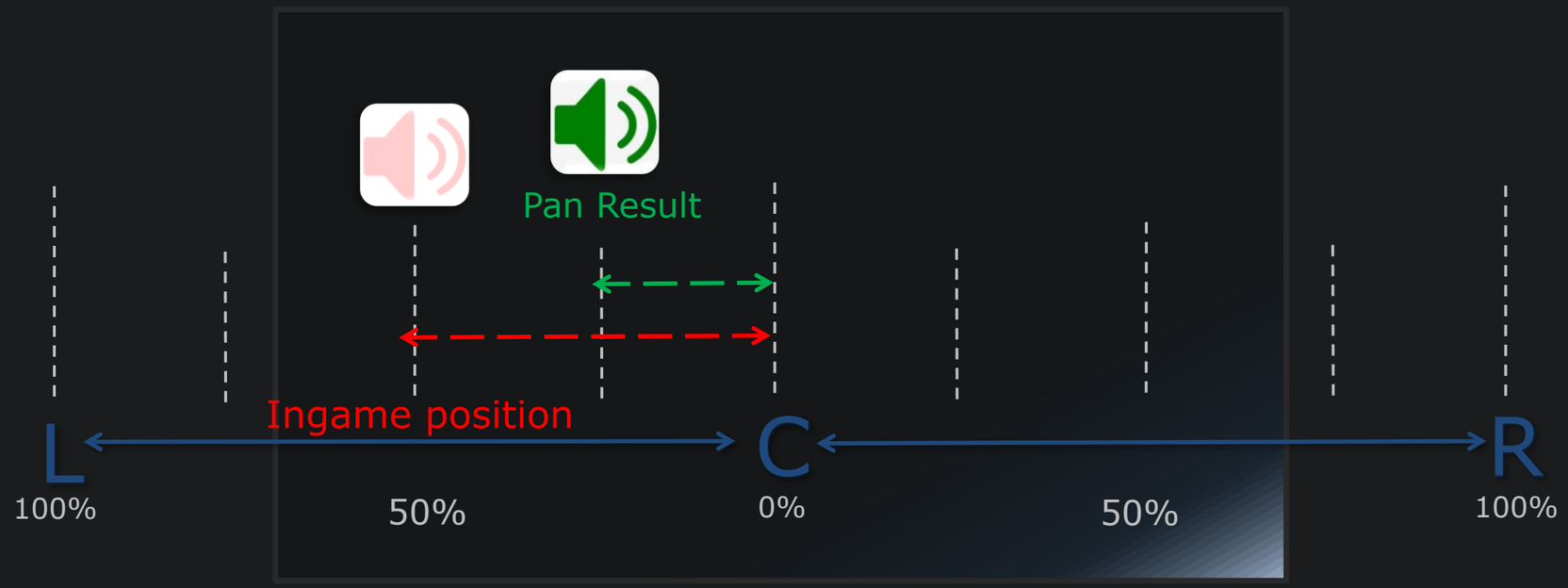

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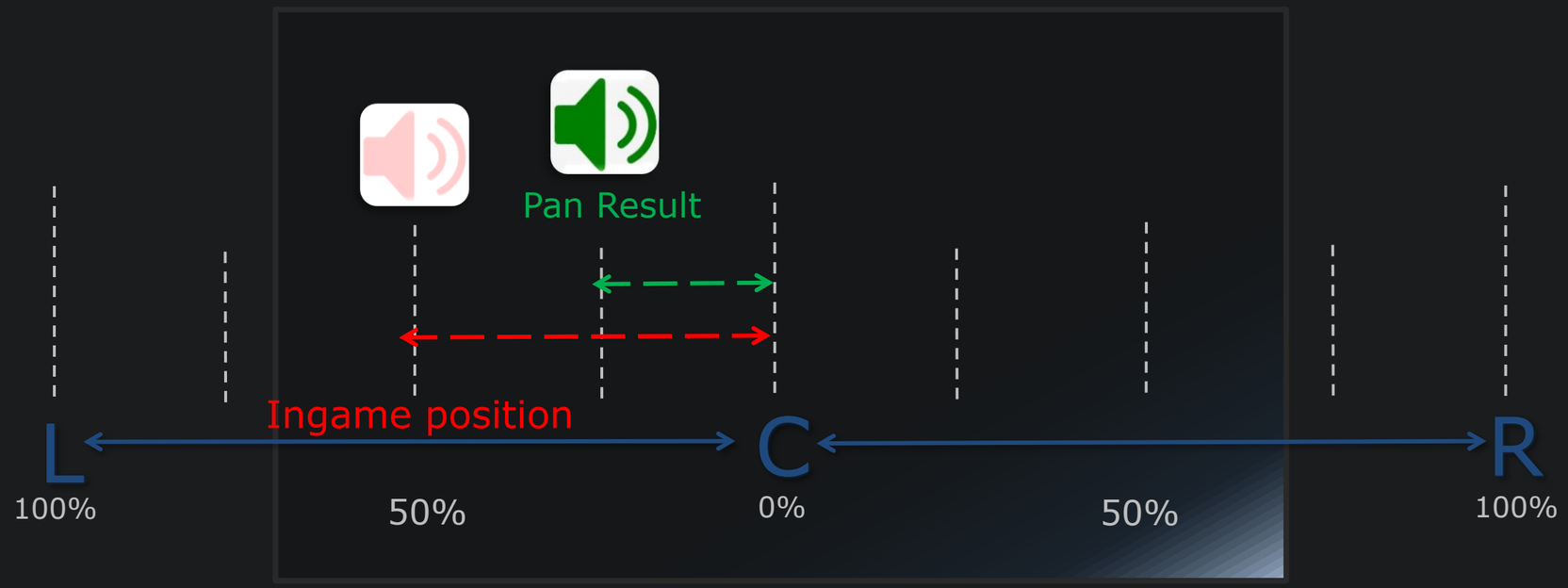

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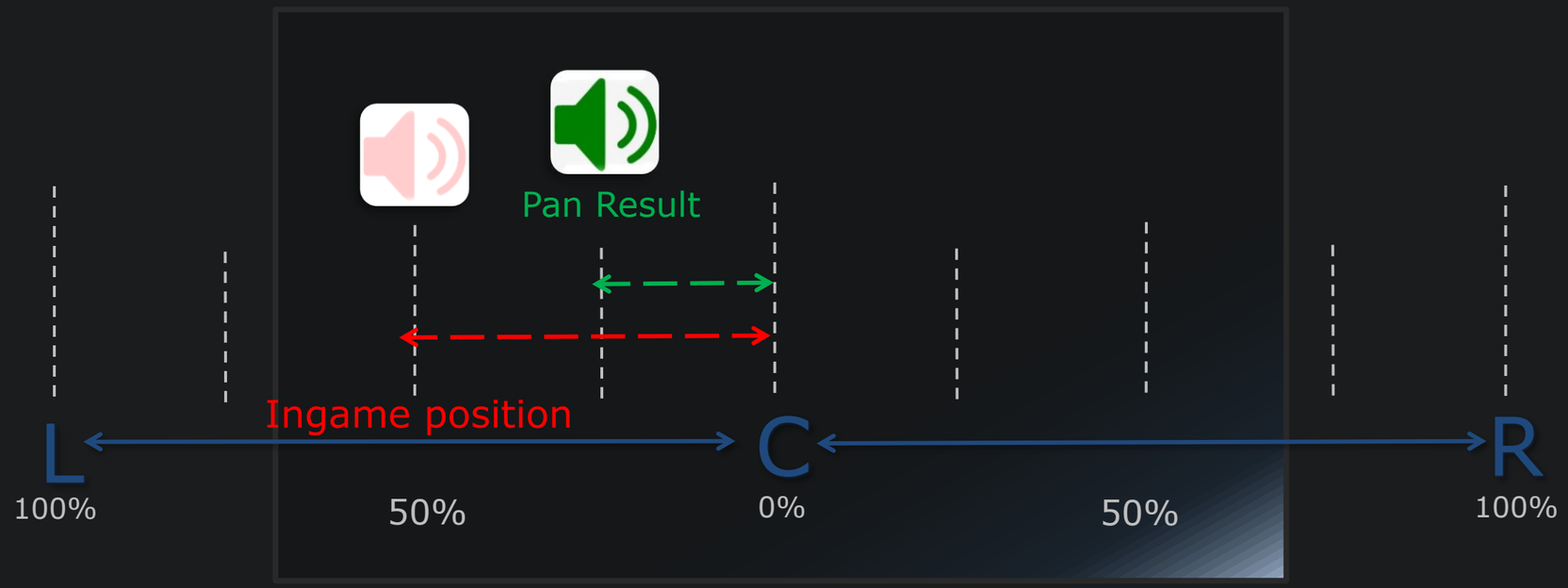
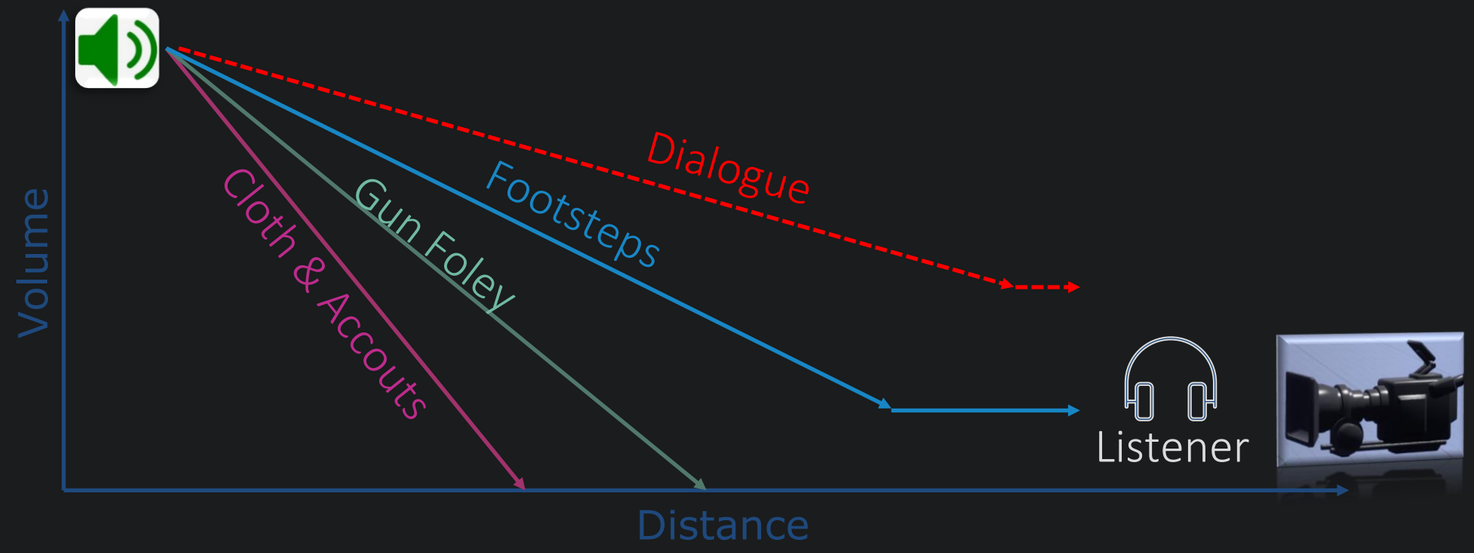


Interactive Mix – Attenuations

Camera listener



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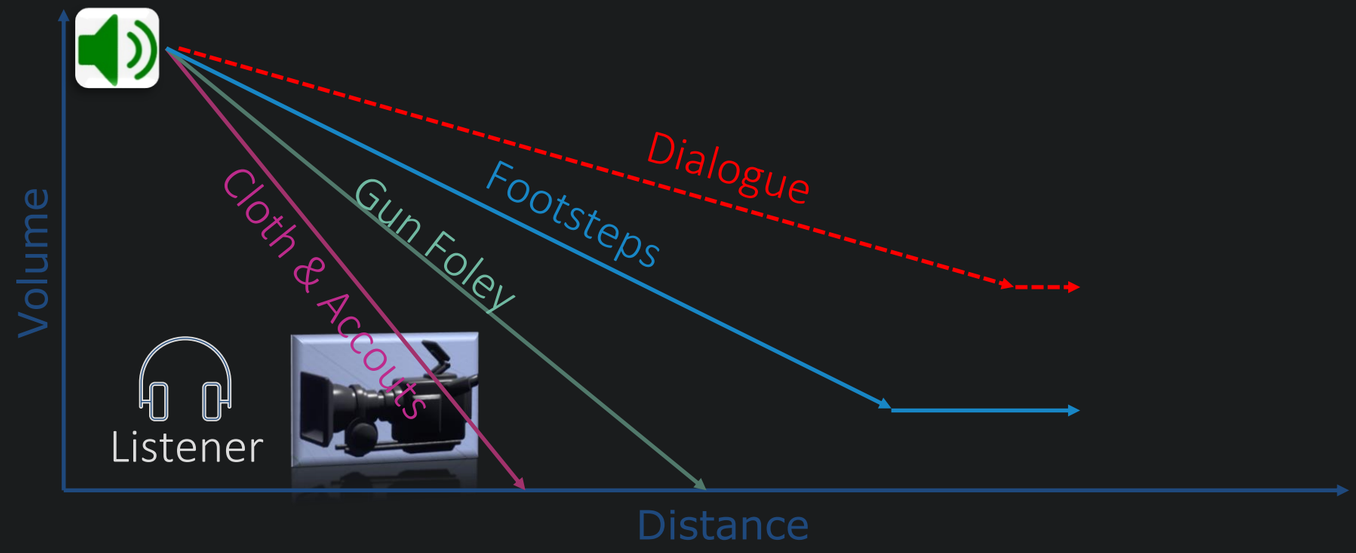
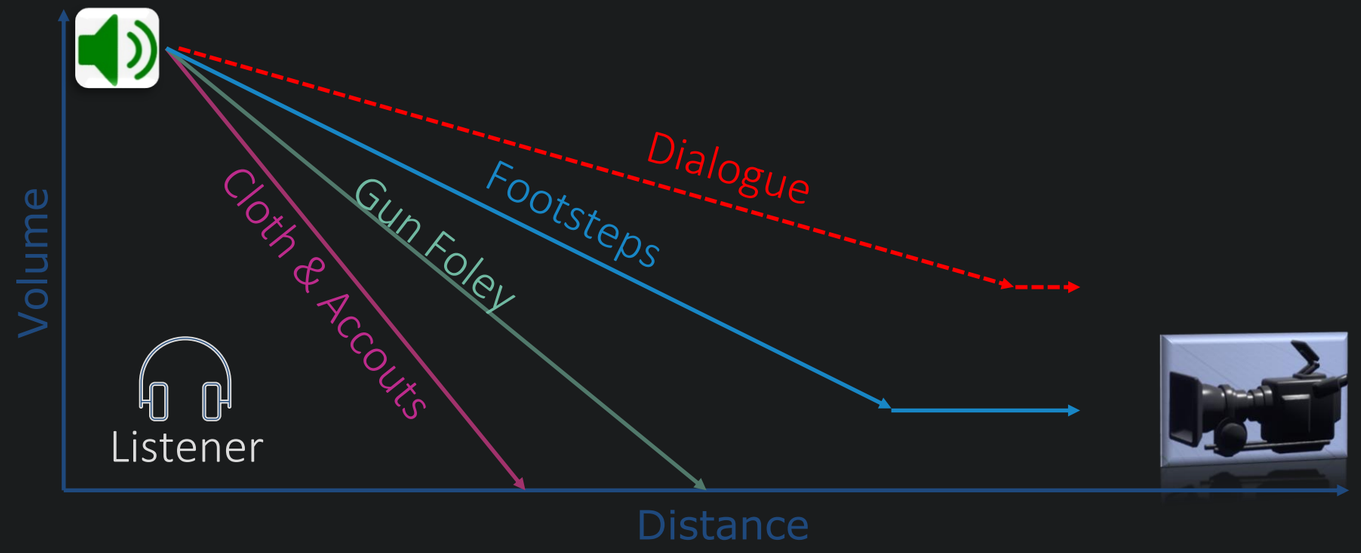


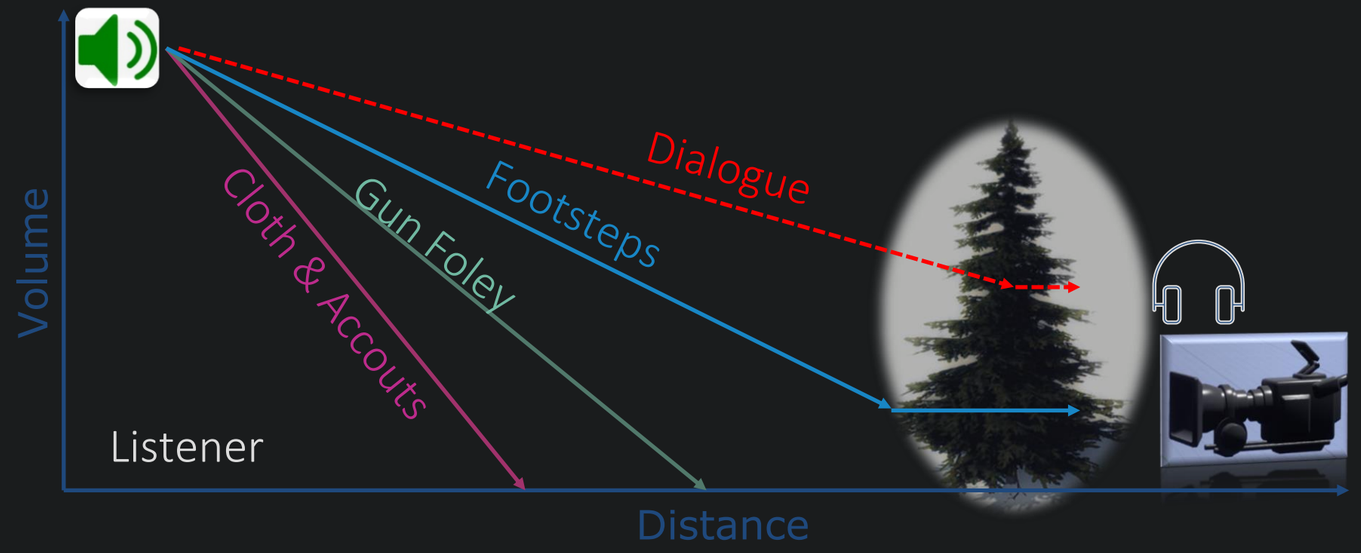
Interactive Mix – Attenuations

Detachable listener



Interactive Mix – Attenuations

Voyeurism - onlooker



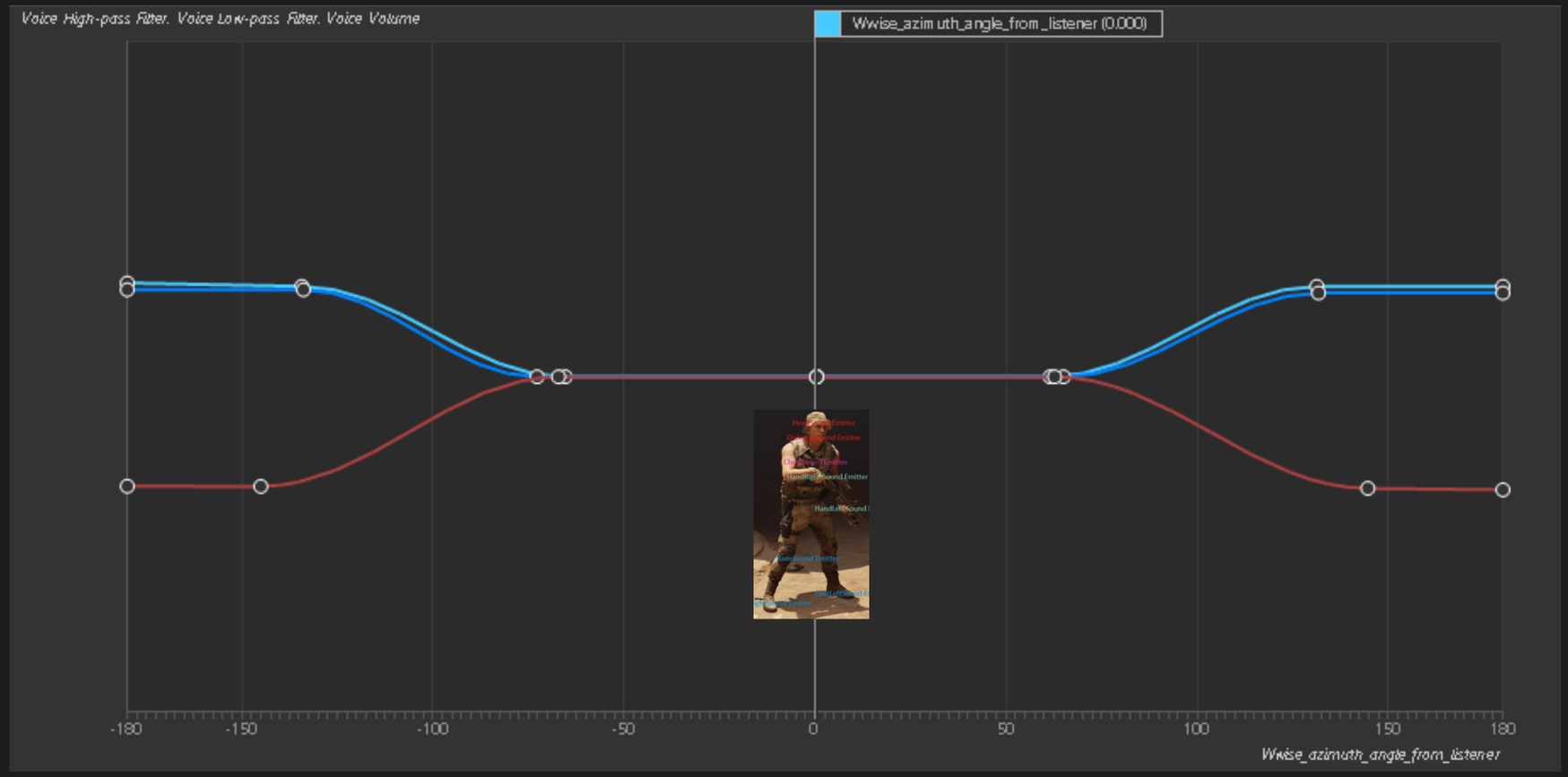
Interactive Mix – Azimuth

On / Off screen attenuation – angle from listener - Foley

HPF

LPF

Vol



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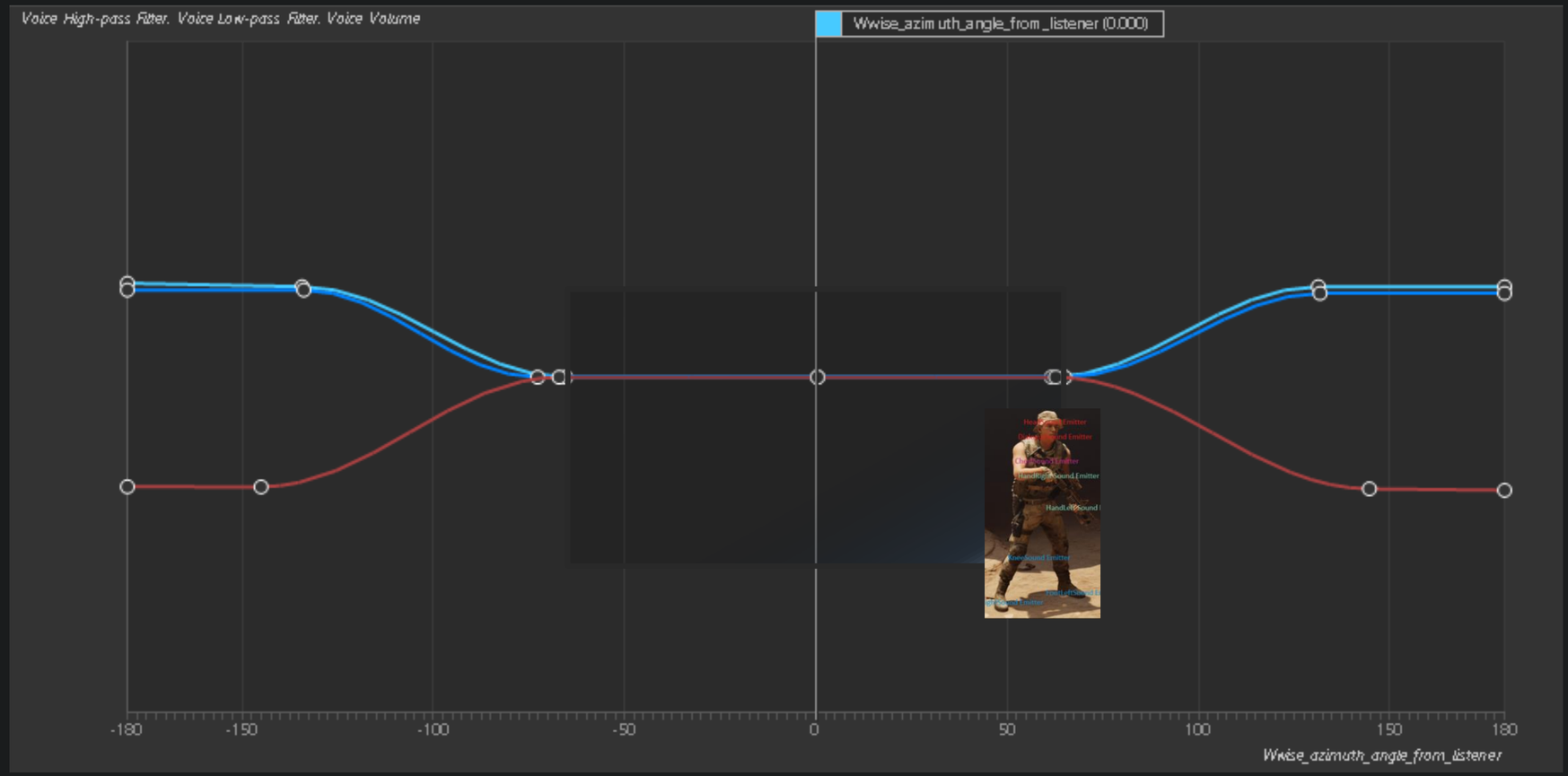

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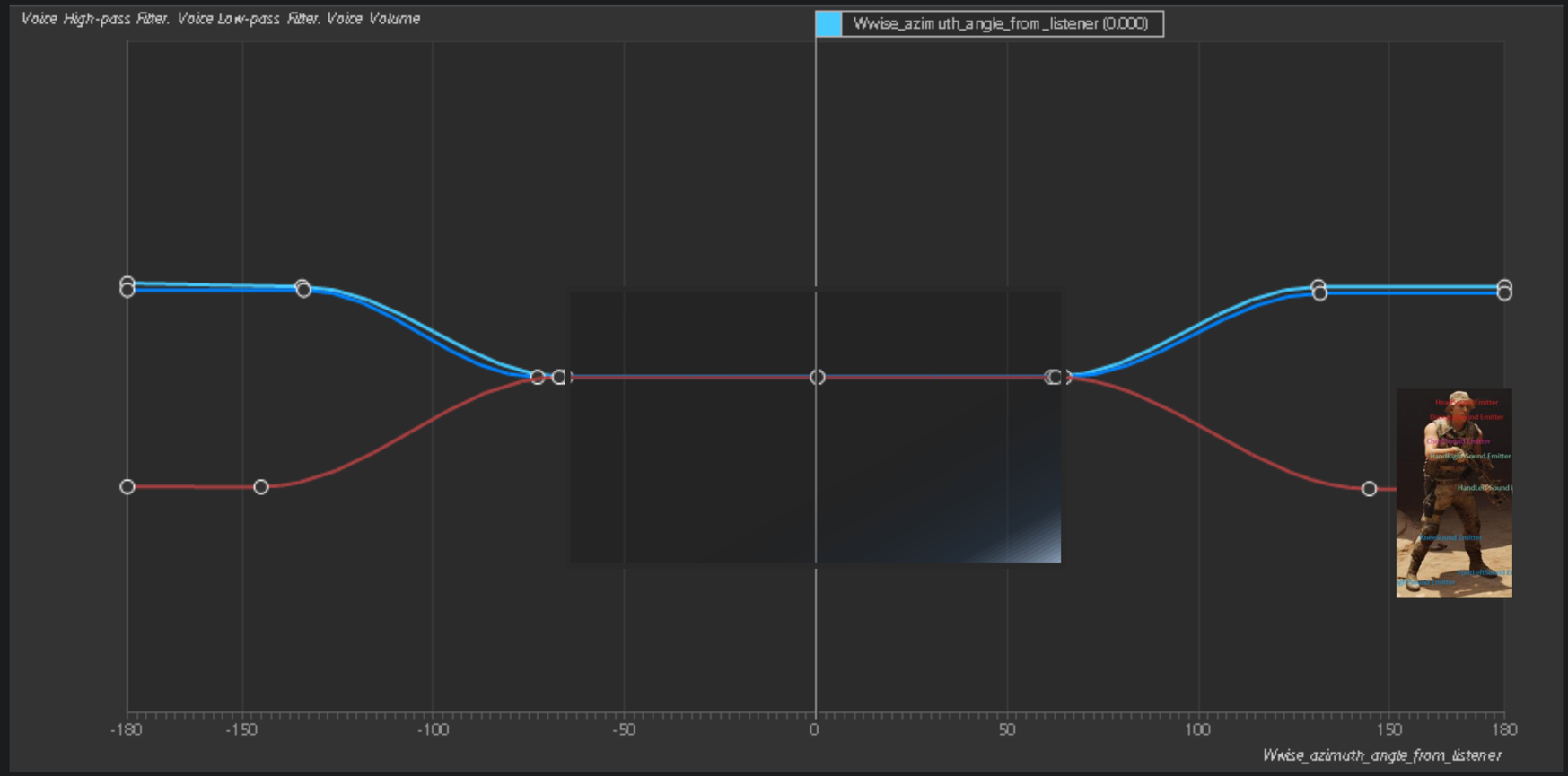
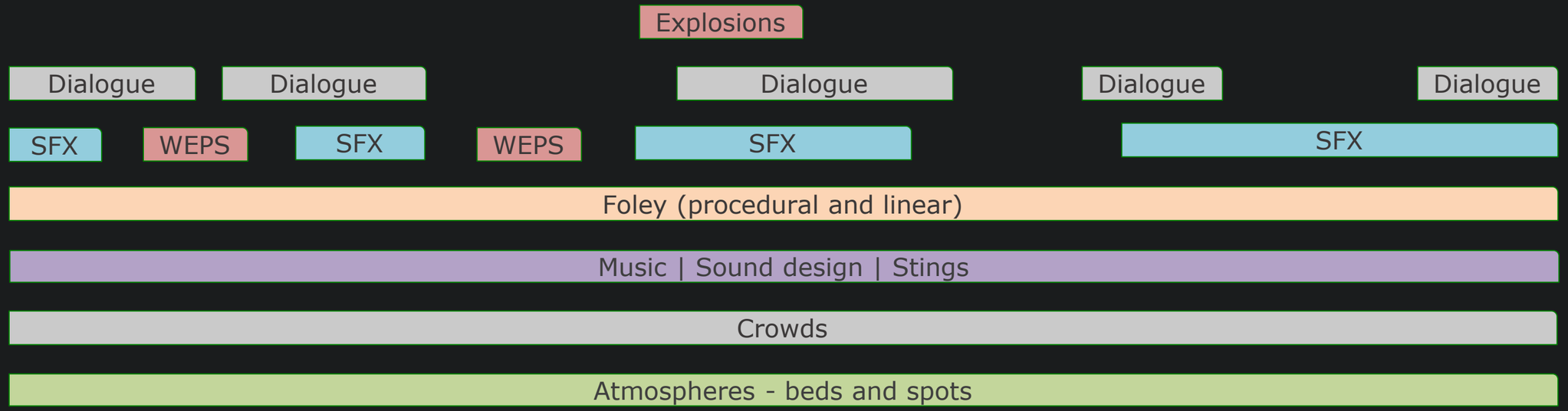


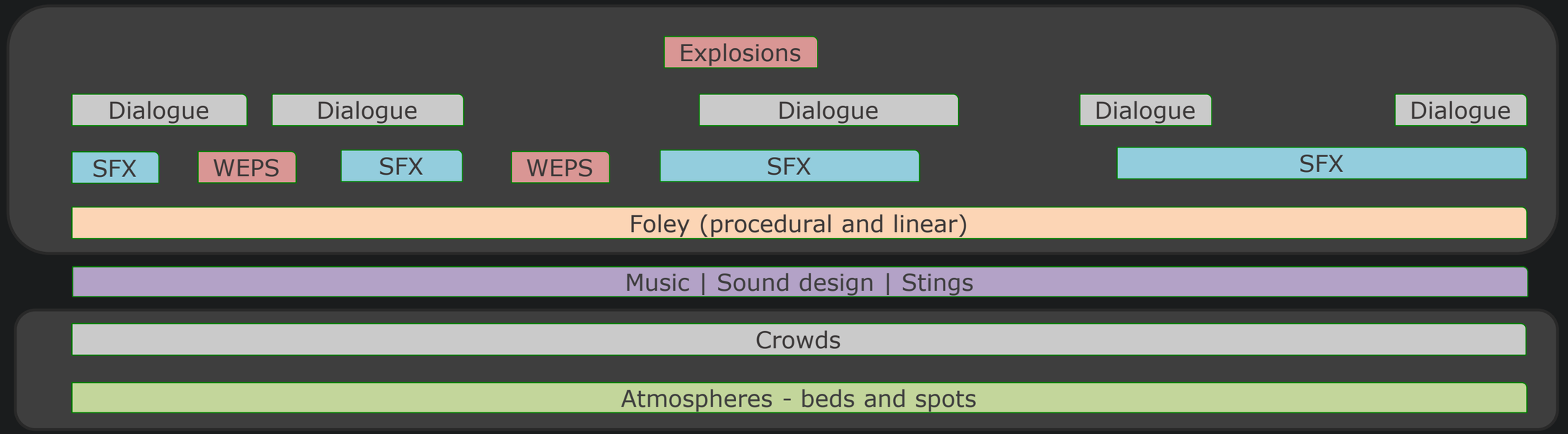
Interactive Mix – Side-chain bussing

Prioritised side-chain hierarchy



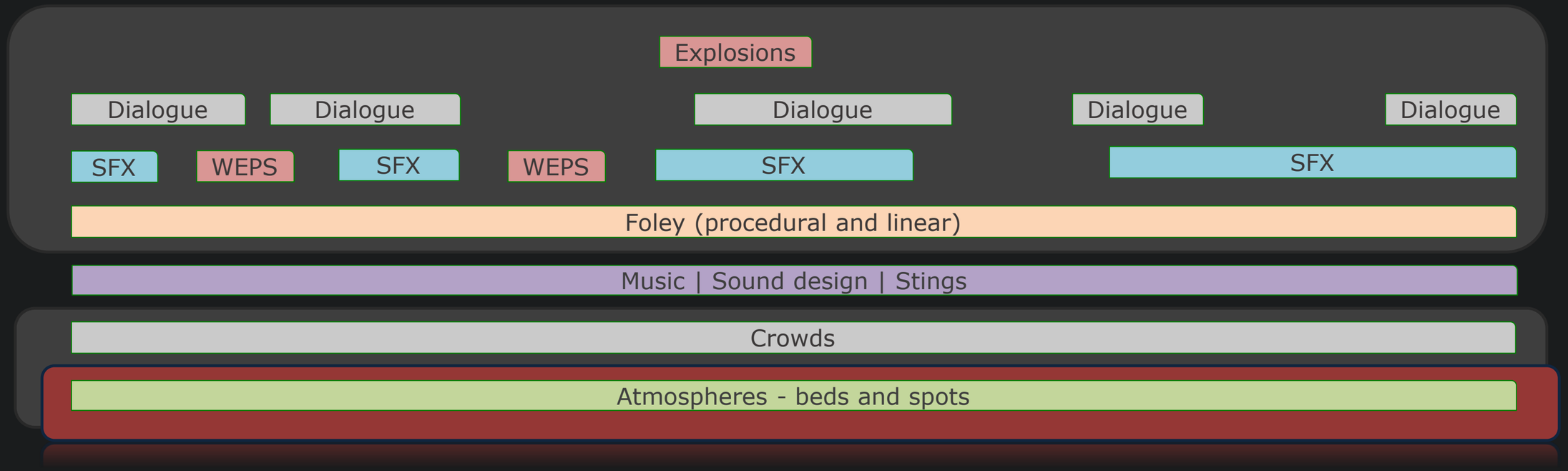
Interactive Mix – Side-chain bussing

Prioritised side-chain hierarchy – Little Hope fog



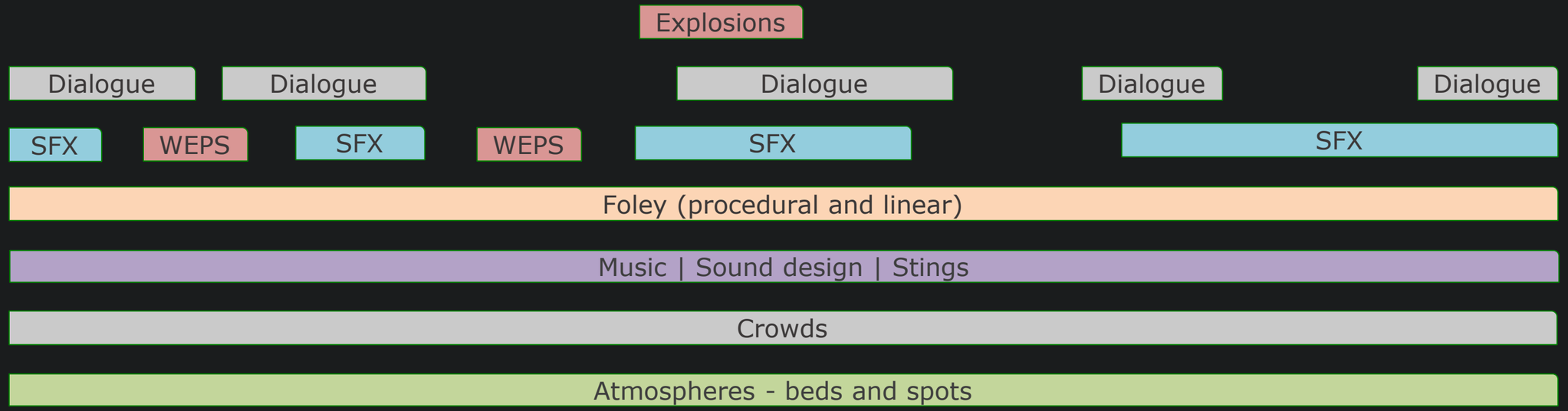
Interactive Mix – Side-chain bussing

Prioritised side-chain hierarchy - Little Hope fog + pitching



Interactive Mix – Side-chain bussing

Prioritised side-chain hierarchy – TDIM - Boatfight



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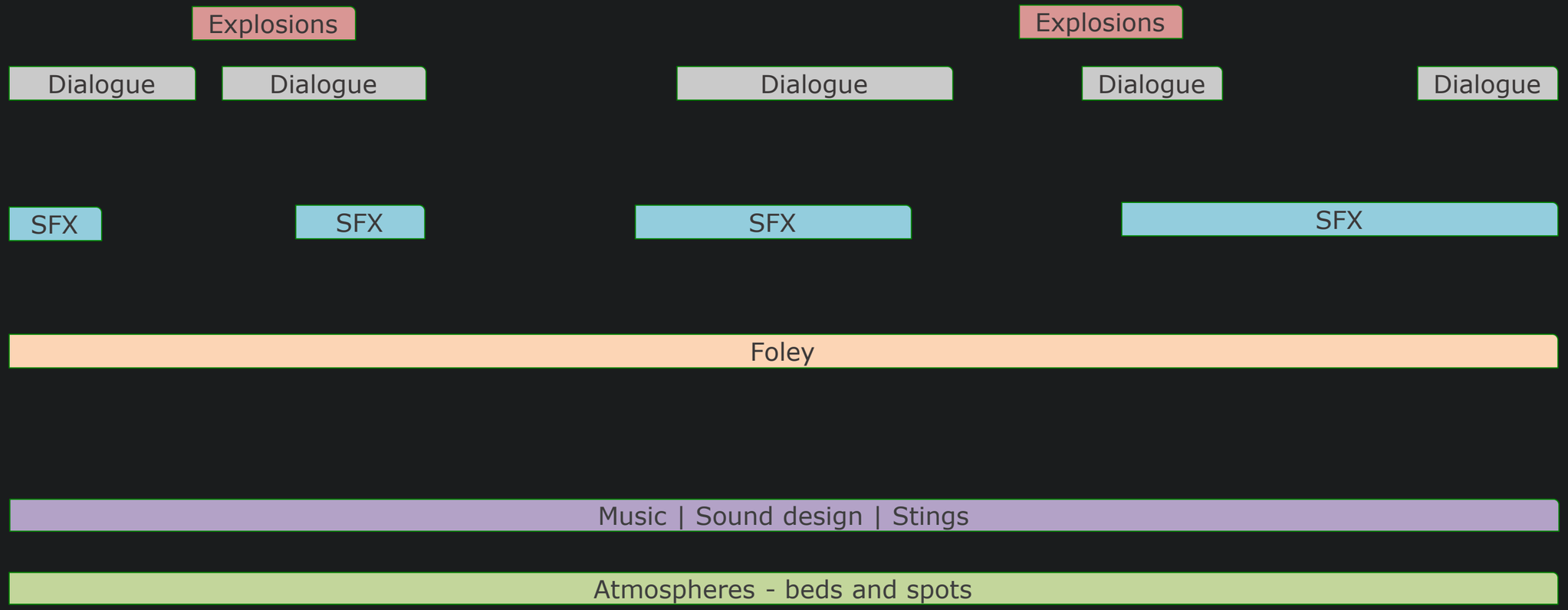

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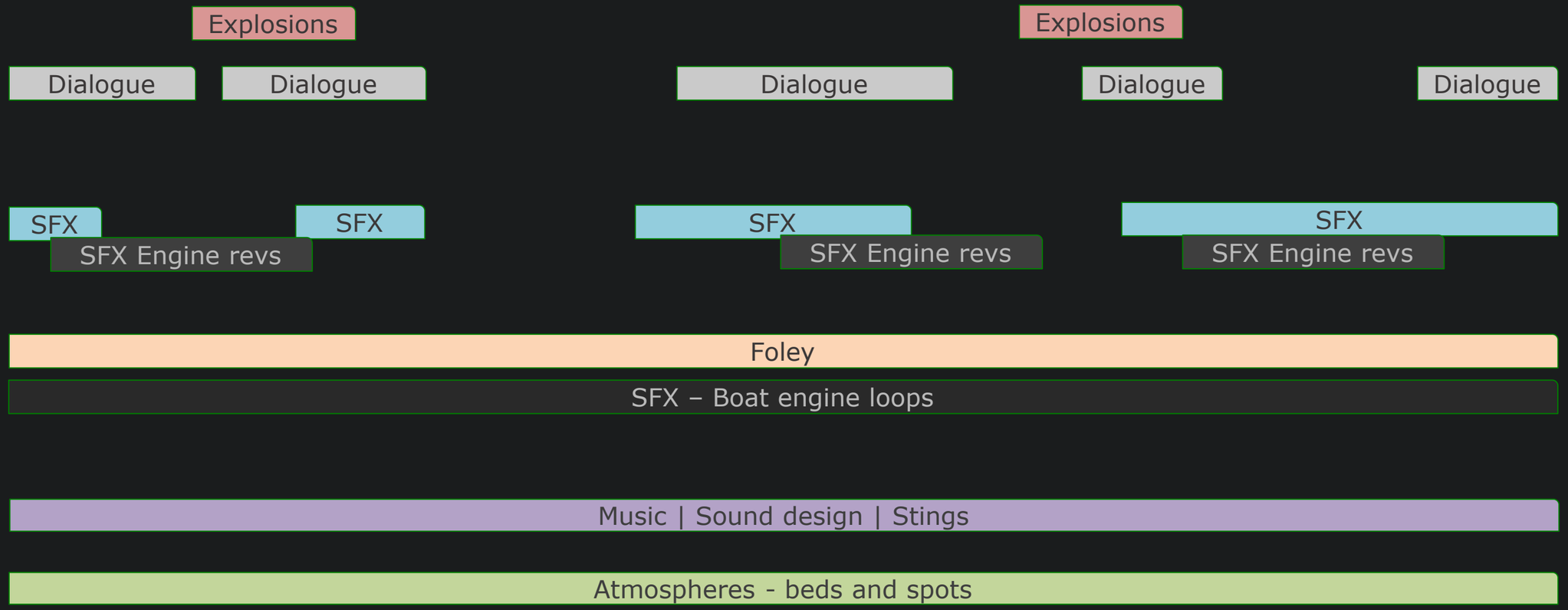

Interactive Mix – Side-chain bussing

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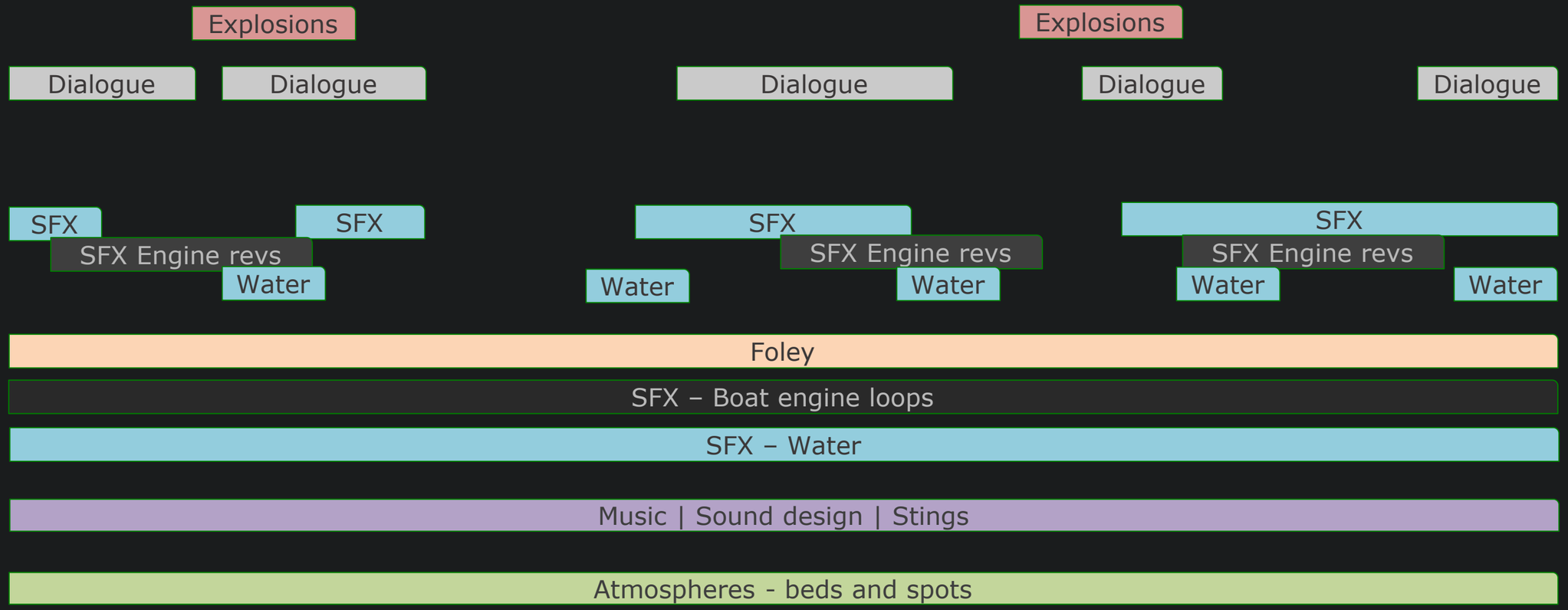

Interactive Mix – Side-chain bussing

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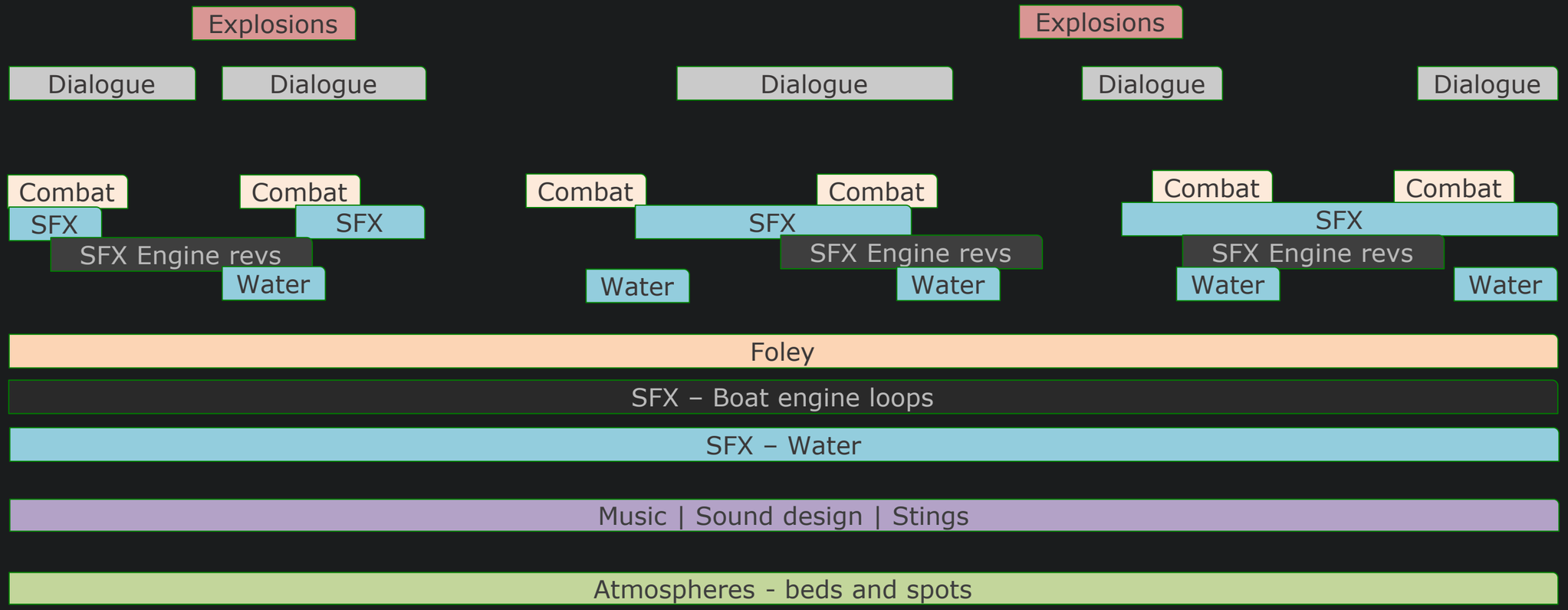

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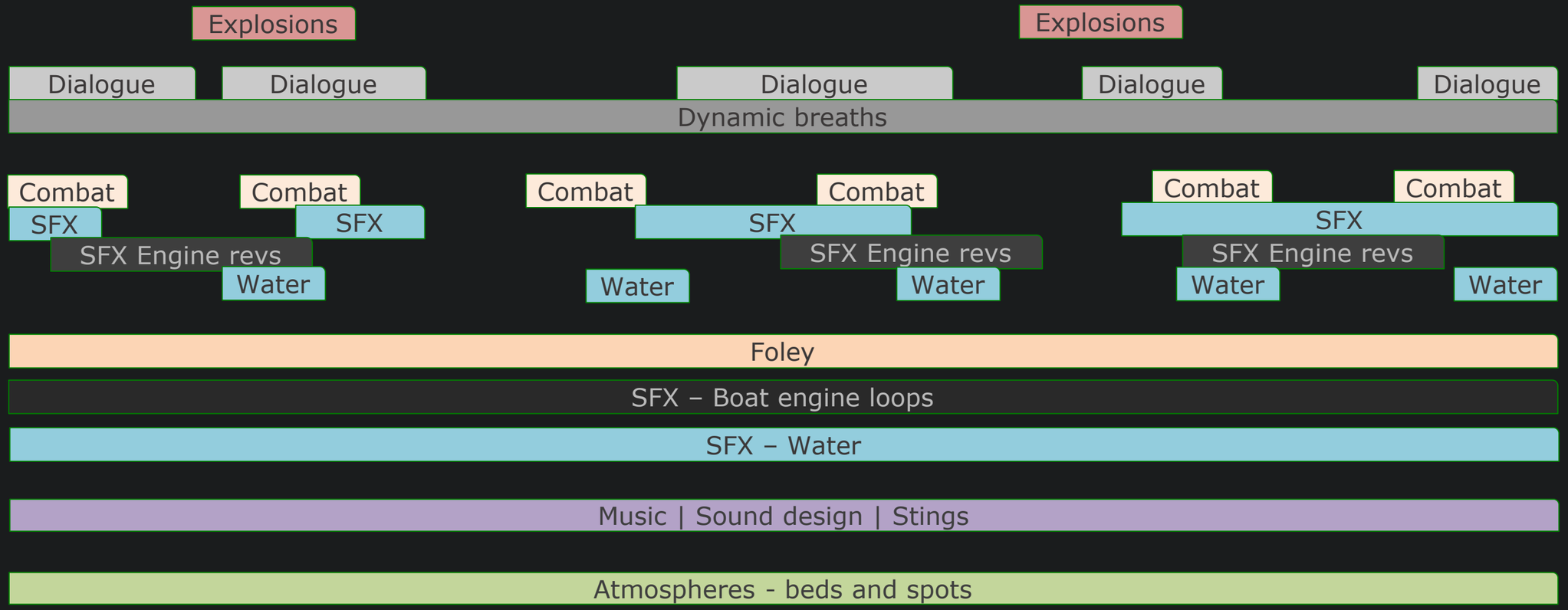

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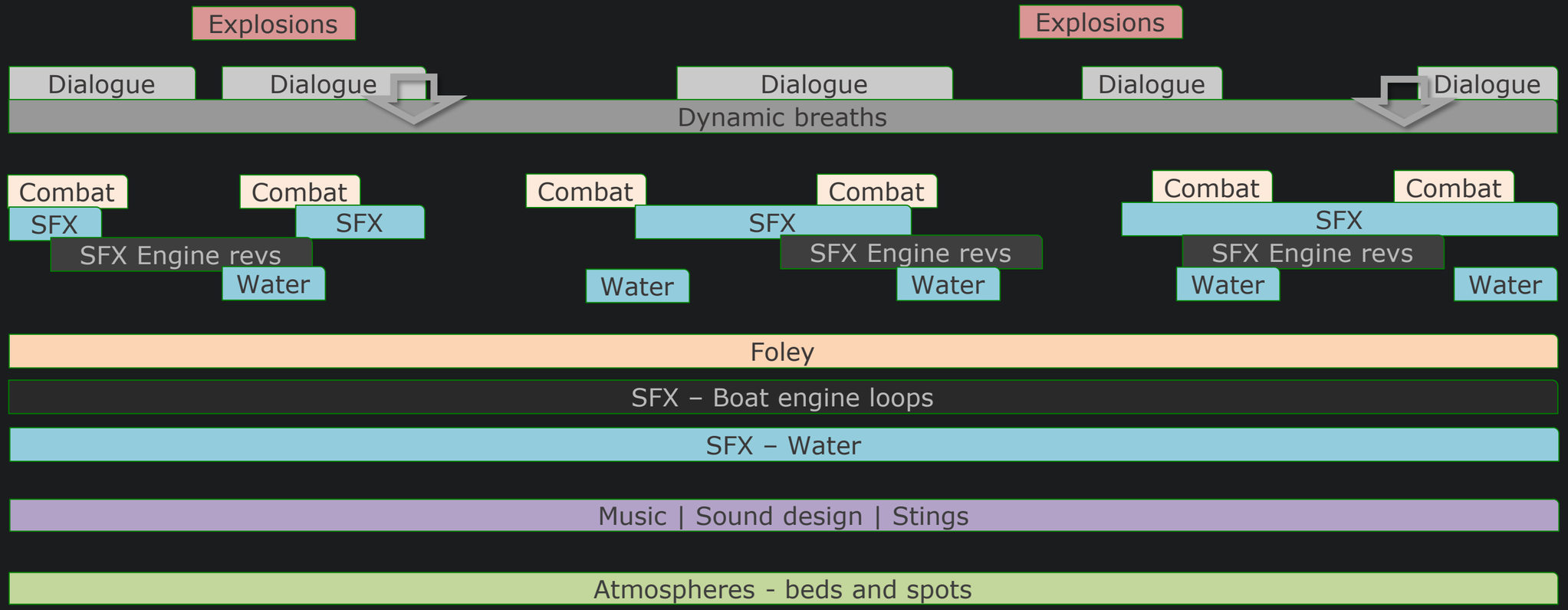

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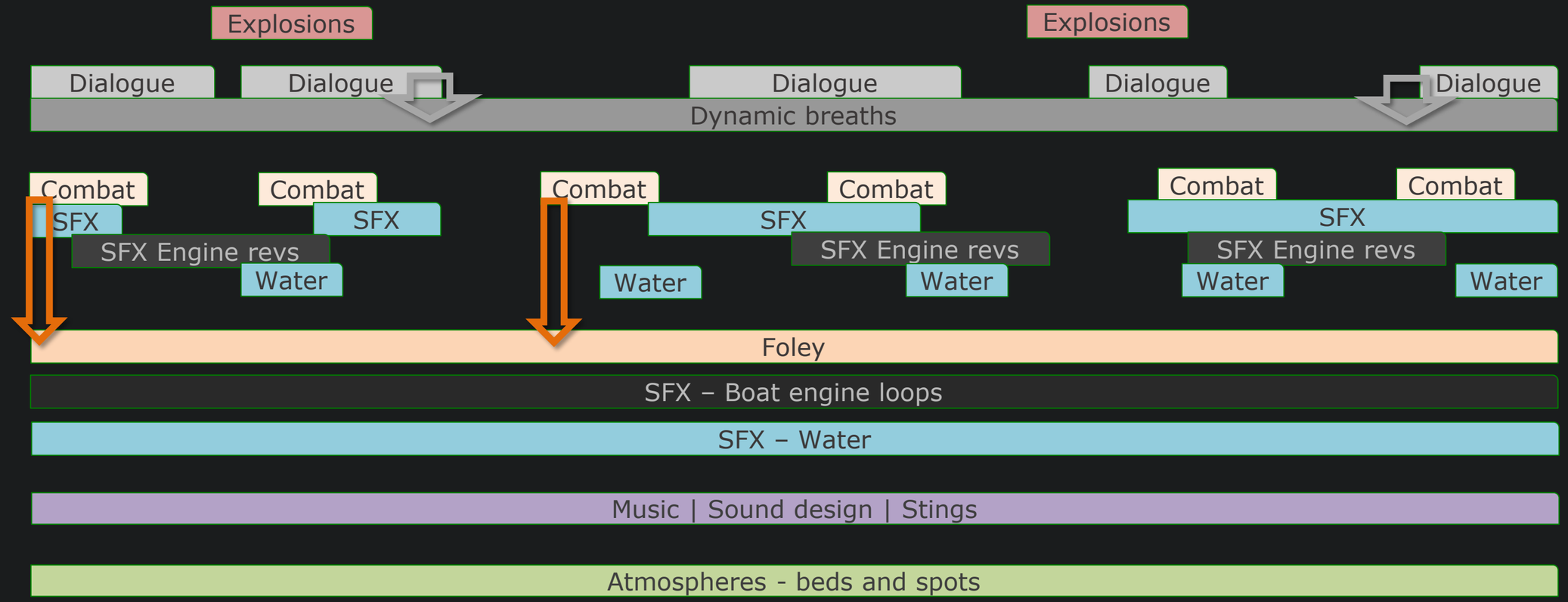

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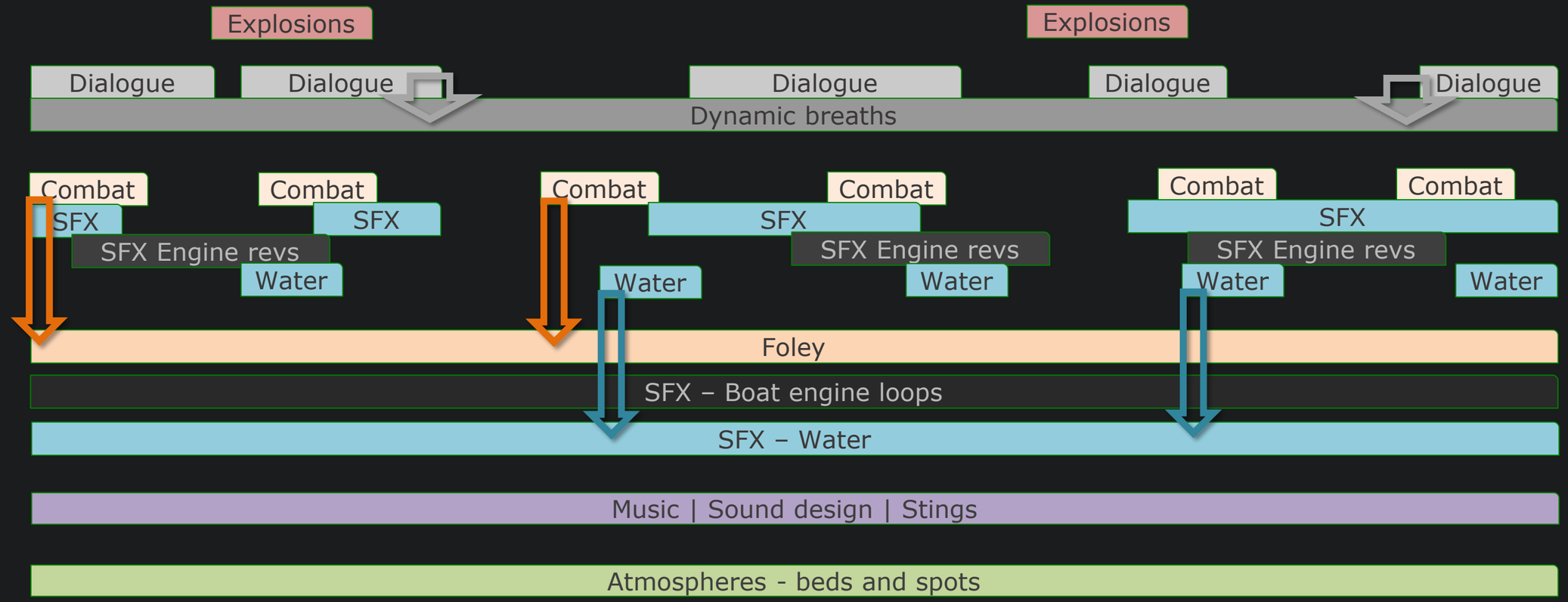

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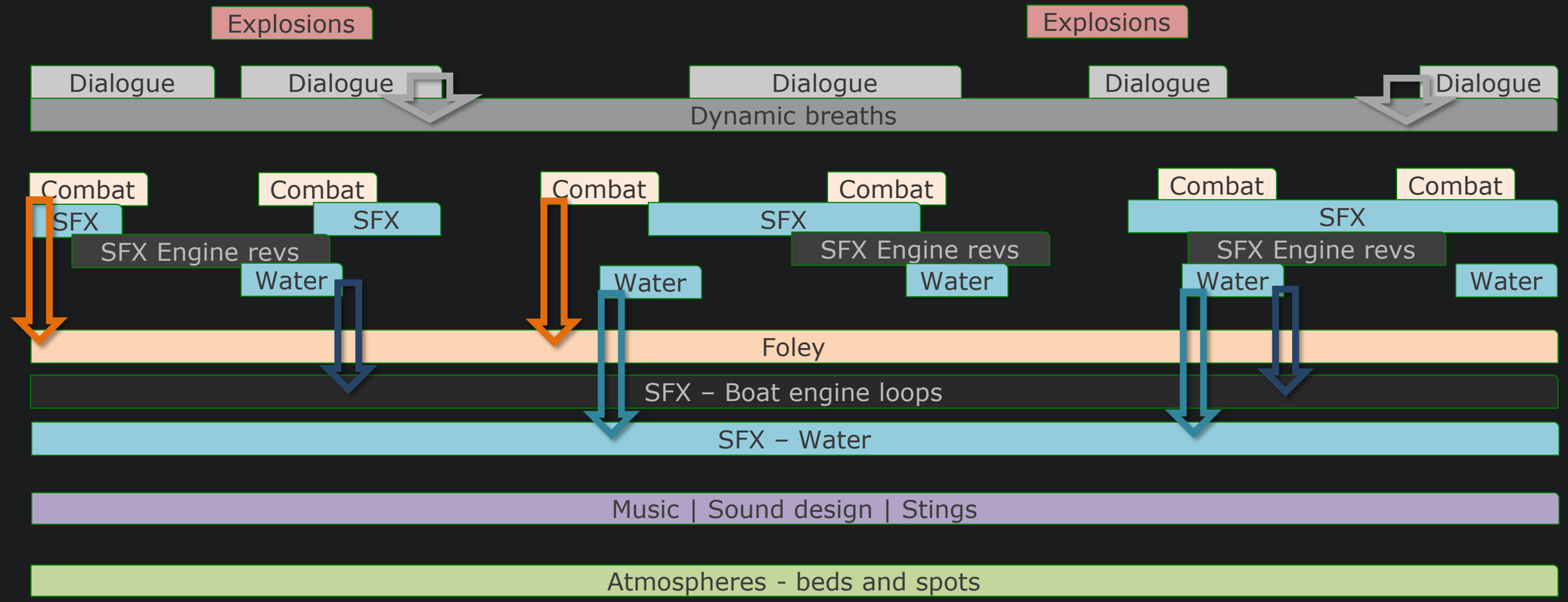

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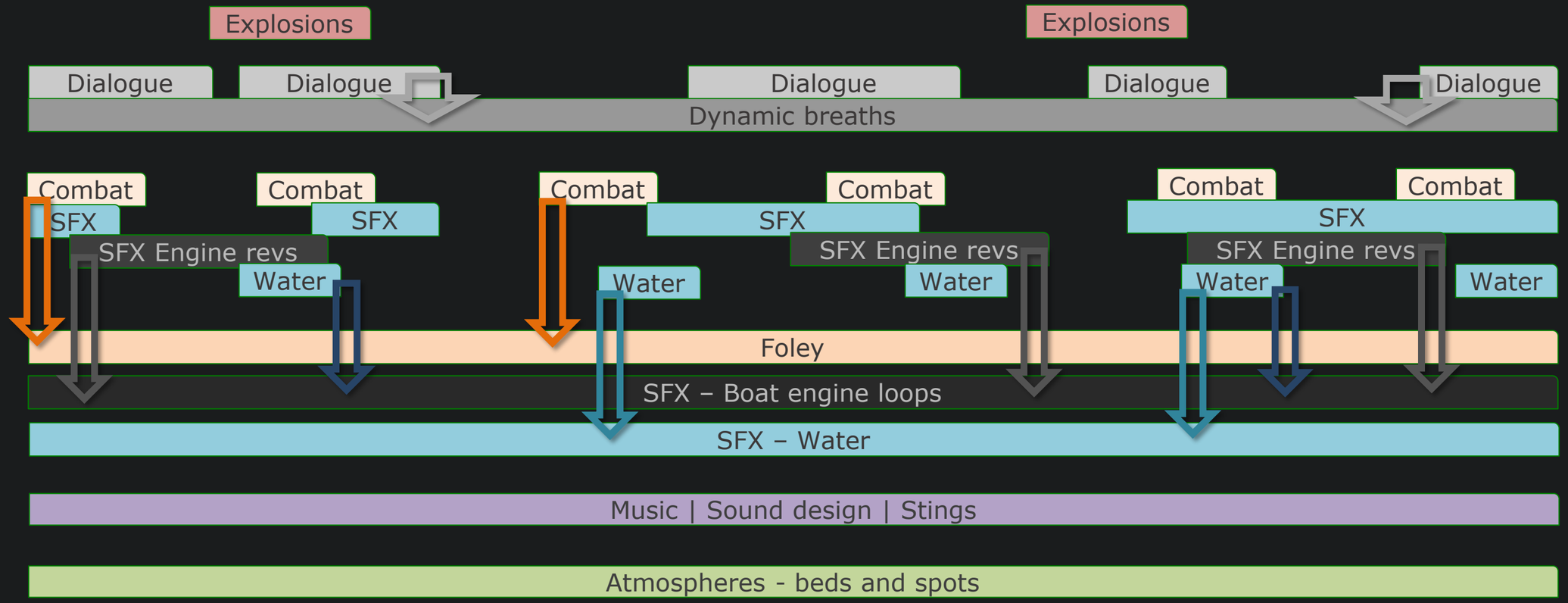

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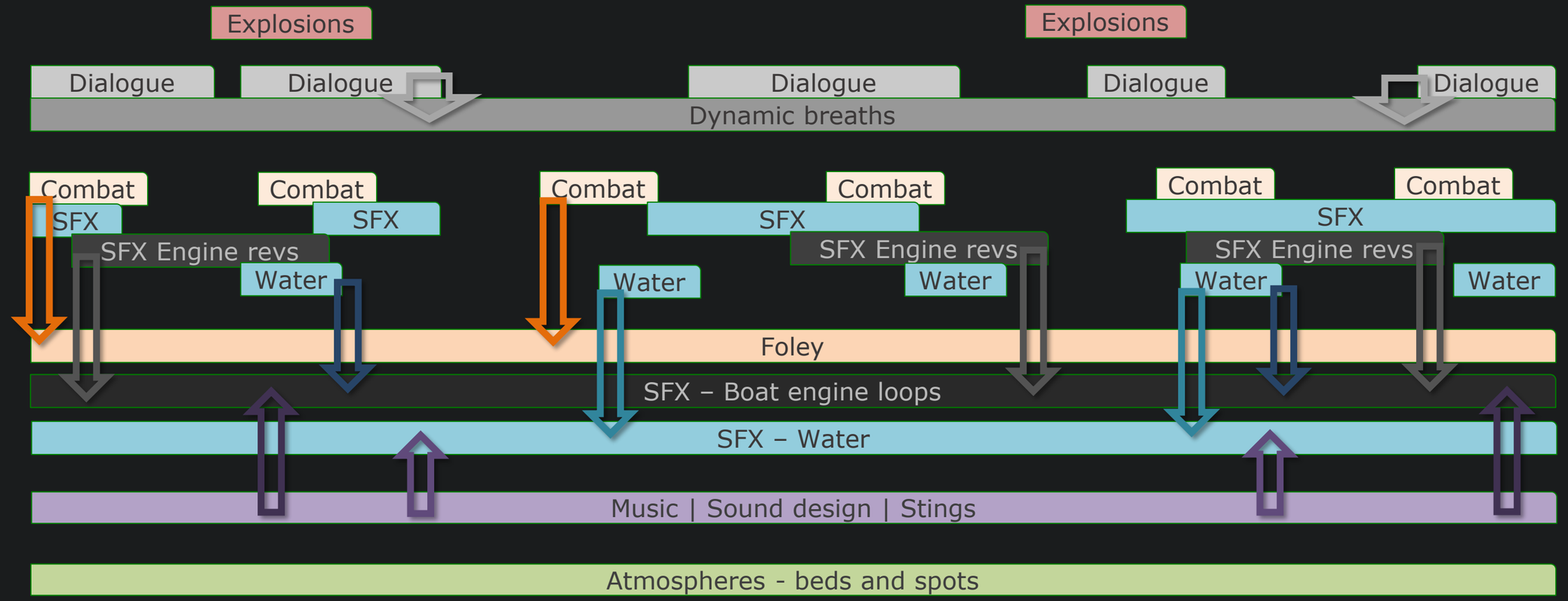

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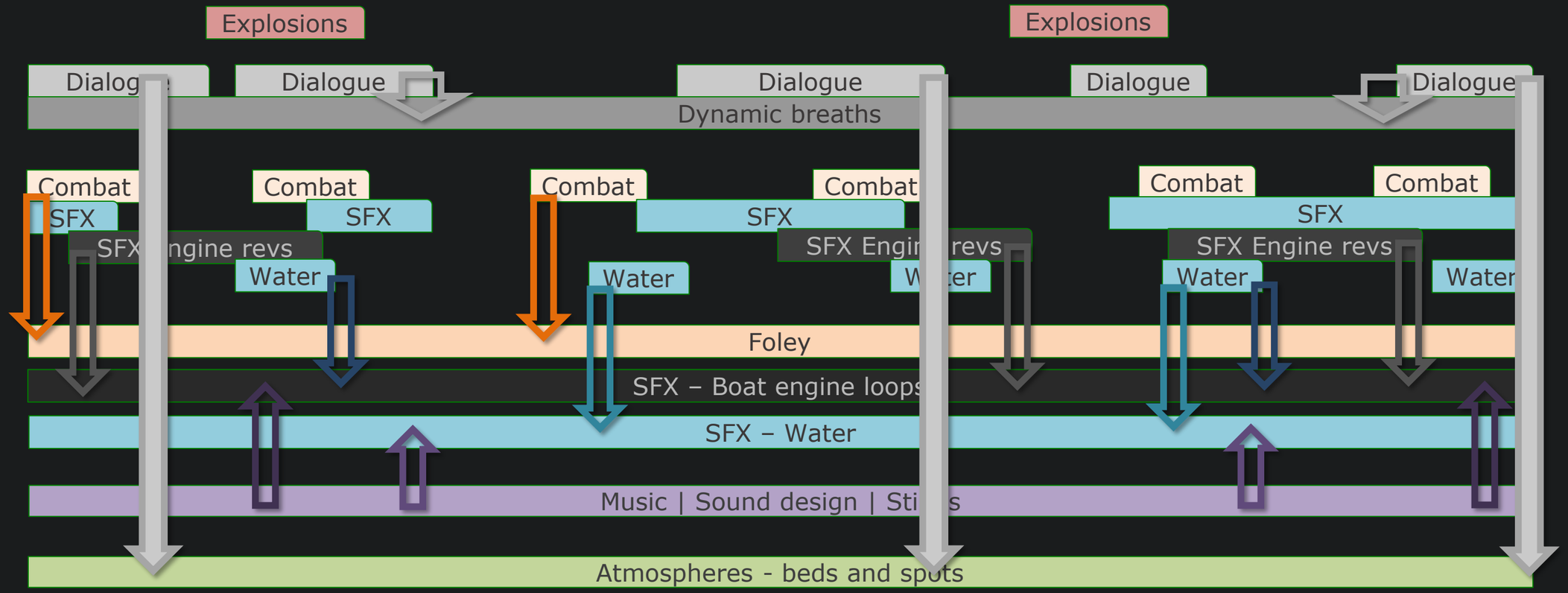

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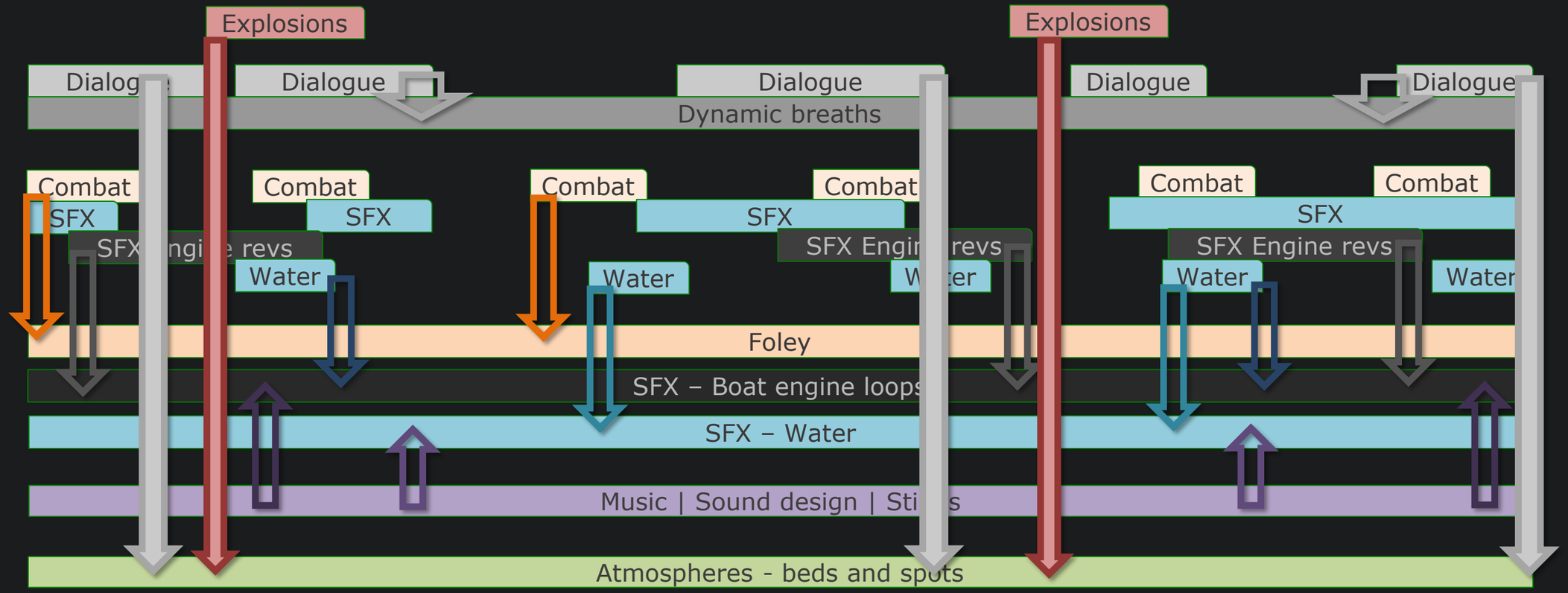

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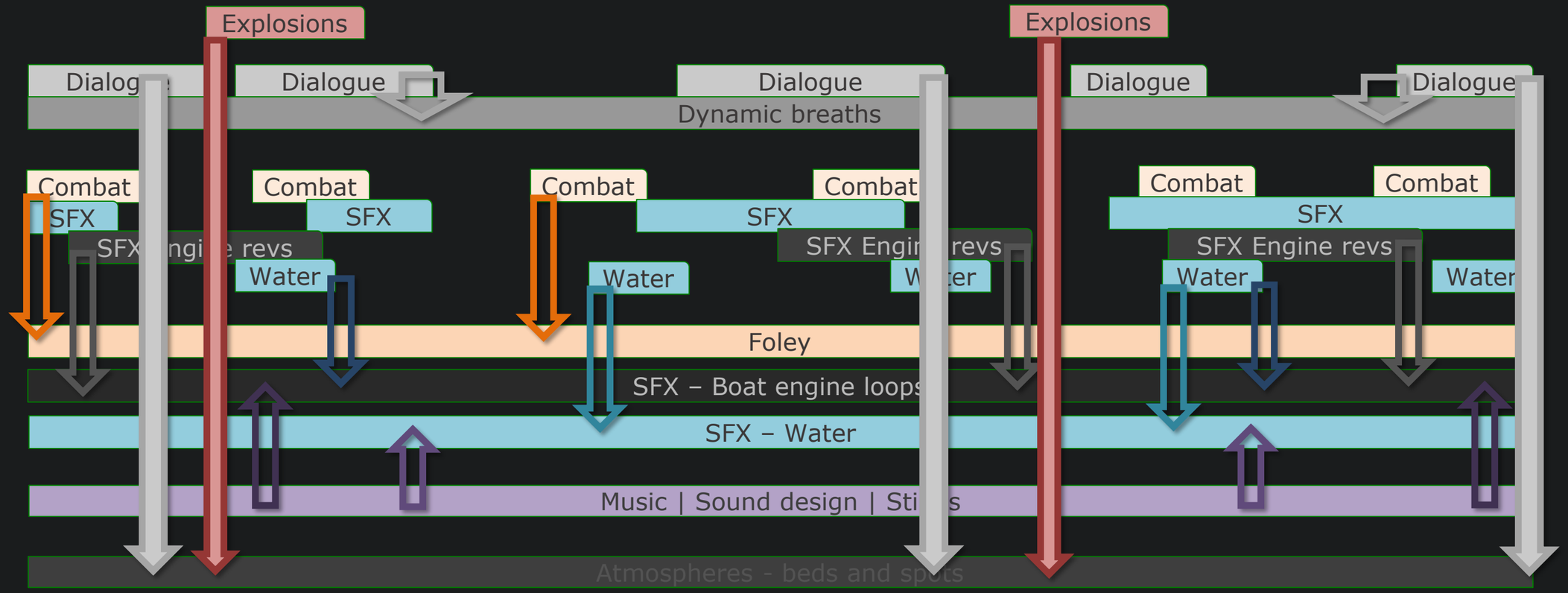
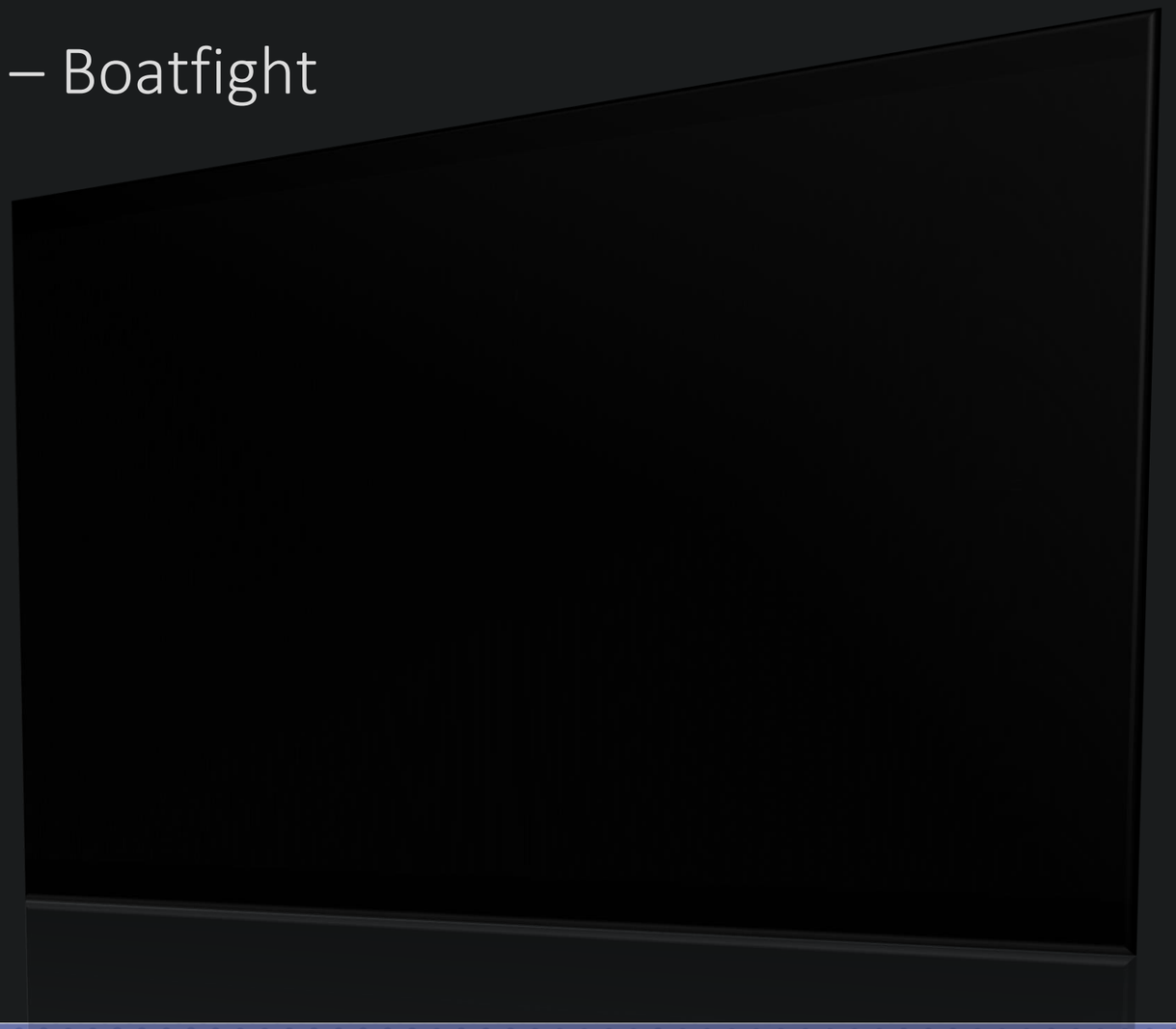


Interactive Mix – Side-chain bussing

Prioritised side-chain hierarchy – TDIM – Boatfight

- All dead all alive
- Numerous prop options
- Camera cuts
- Attenuations / Azimuth
- Slomos



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Directional microphone – at runtime

GIFT to sound team:

- Player controlled
- 3rd person held
- Shotgun mic

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In game simulation:

- Directionality
- Off axis effect
- Hyperreal

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Additionally:

- Headphones
- On / off anytime
- Flipping the mix runtime

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And:

- Mic handling - procedural

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- 3rd person held
- Shotgun mic

In game simulation:

- Directionality
- Off axis effect
- Hyperreal

NME "like some sort of murder ASMR."

Additionally:

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- On / off anytime
- ing the mix runtime

- Mic handling - procedural

Directional microphone – at runtime

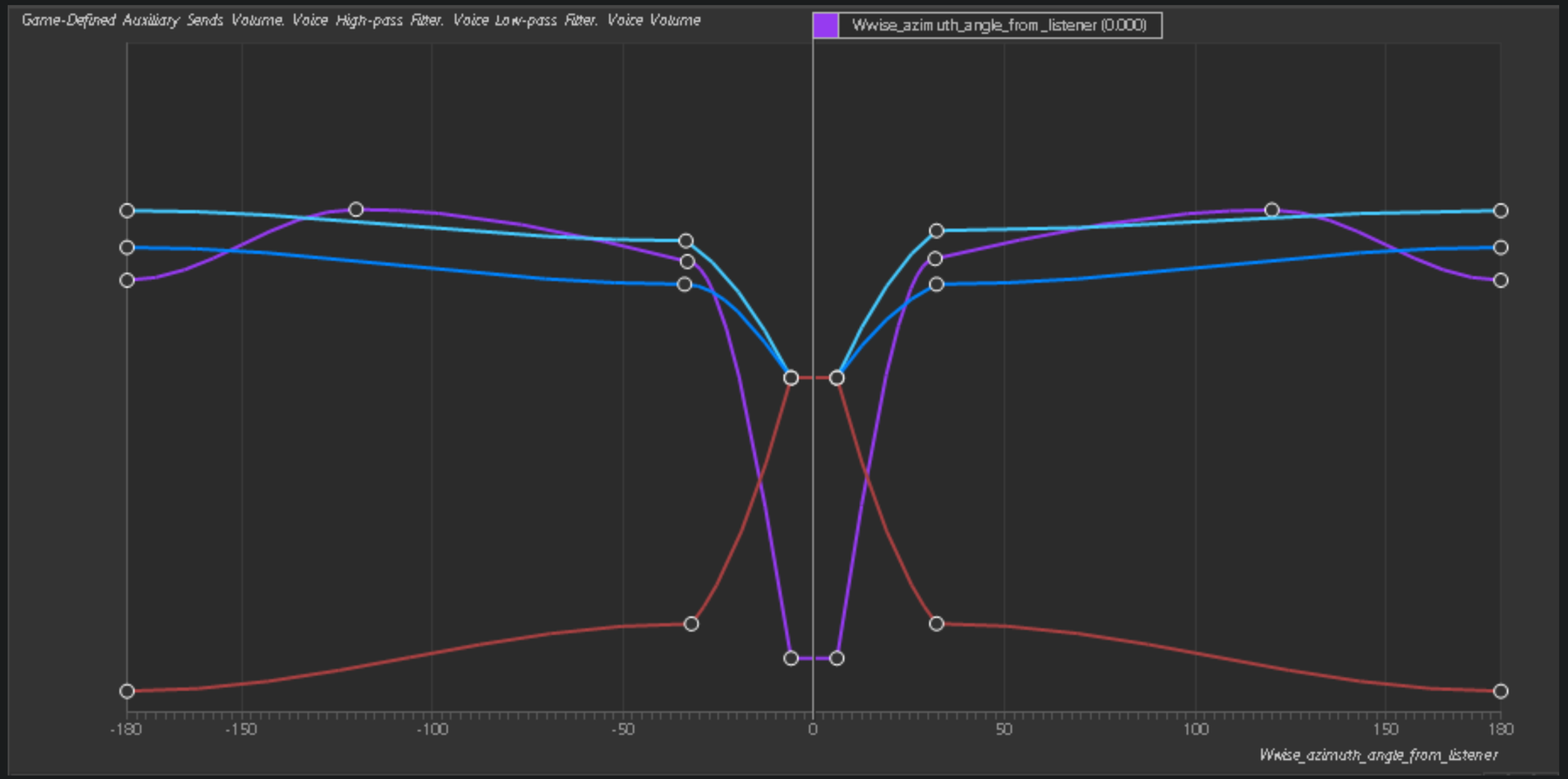
Azimuth control

HPF

LPF

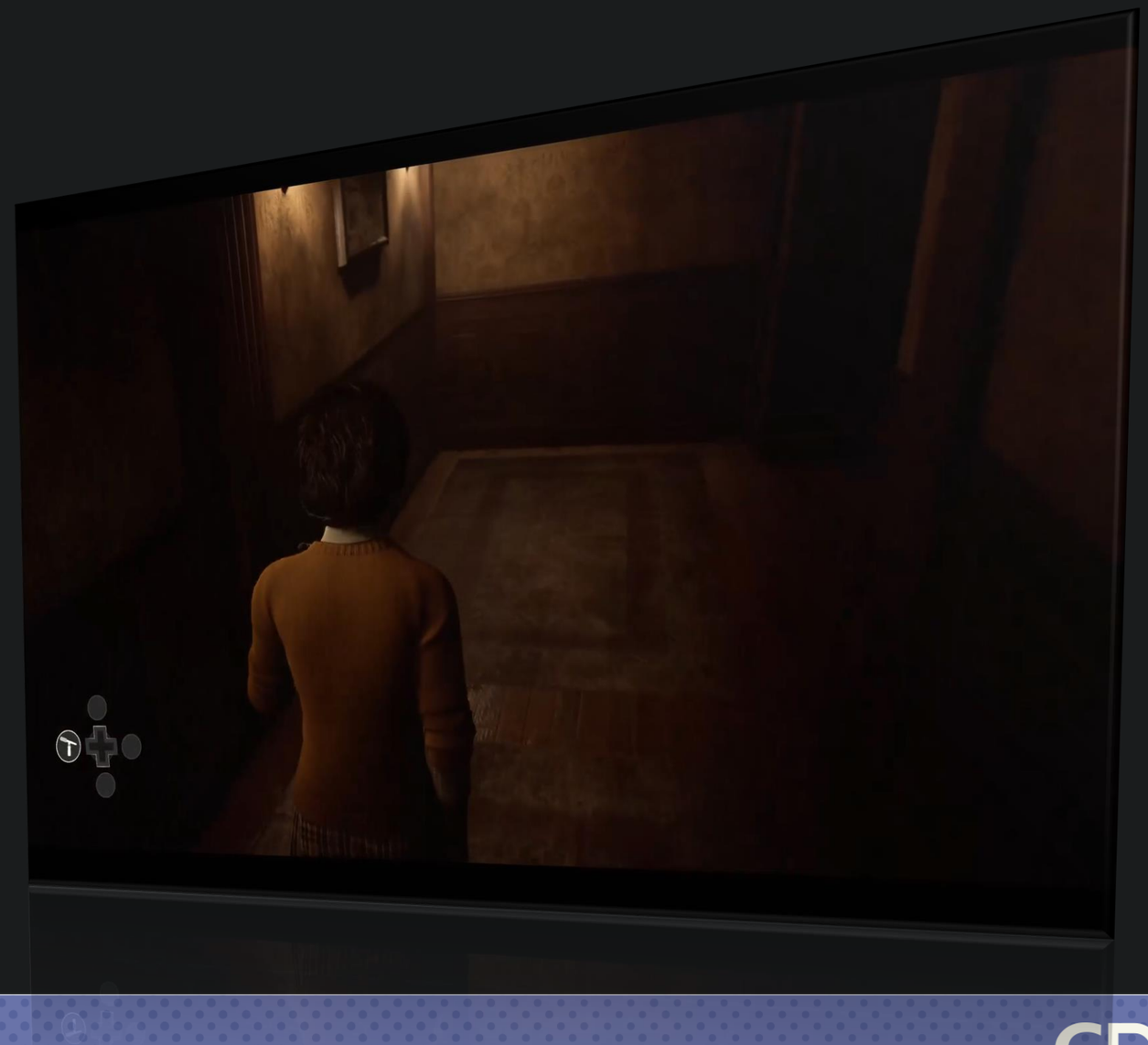
AuxSend

Vol



Directional microphone – at runtime

In game



Music – Season 1

- Jason Graves
- MASSIVE variety
- Completely different OSTs
- Reflect and drive the narrative
- Emphasise location
- Fit horror subgenre
- Fun and experimentation

Music – Season 1

Man of Medan:

- Present day
- 3 / 4 (waves)
- Full orchestral

Little Hope:

- Supernatural / Psychological
- Minimal
- 1692

House of Ashes:

- Arabic + Sumerian
- Vampire to Alien
- Strident signature

The Devil in Me:

- Bernard Herrmann
- Operatic diegetic
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- Bernard Herrmann
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- 1892

Music – Season 1

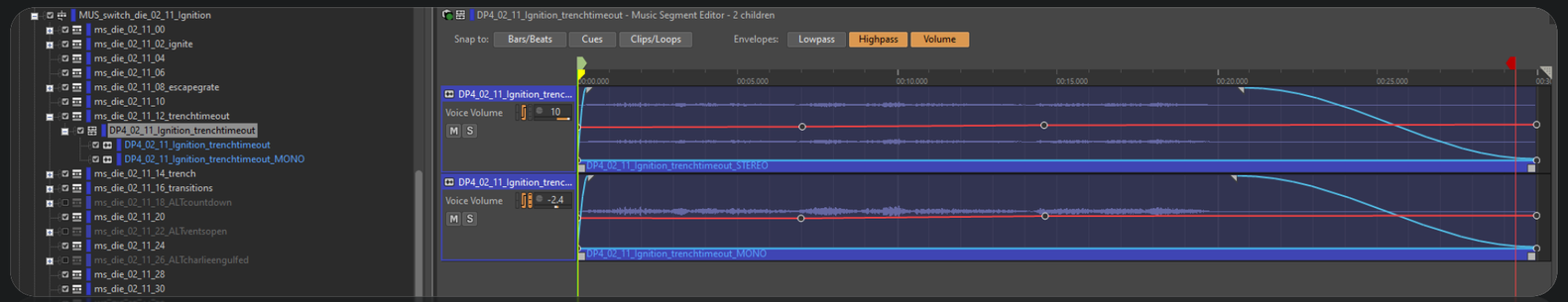
Season 1 in 2 mins:

- Medley

Music – Diegetic | Score

Runtime diegetic music to full score switching:

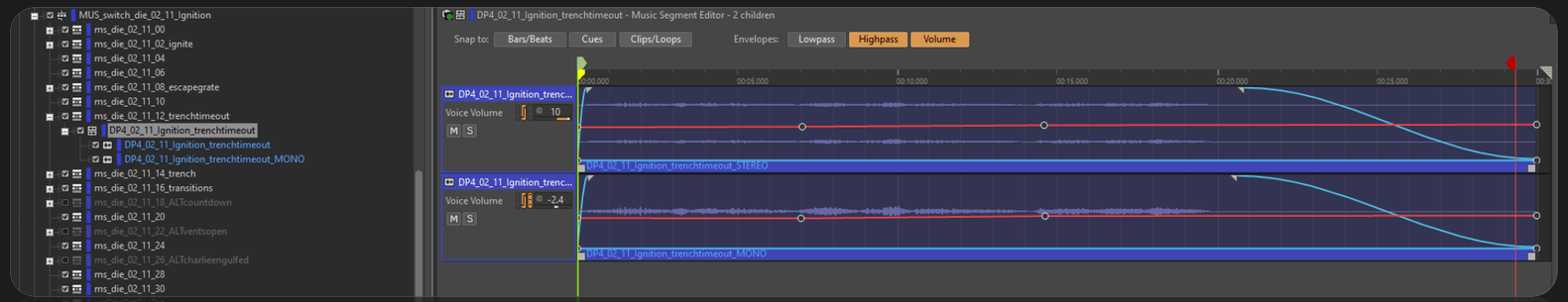
- Classical and operatic pieces
- Mono diegetic - gramophone
- Stereo score
- RTPC controlled mix
- RTPC reverb send
- RTPC controlled distortion



Music – Diegetic | Score

Runtime diegetic music to full score switching:

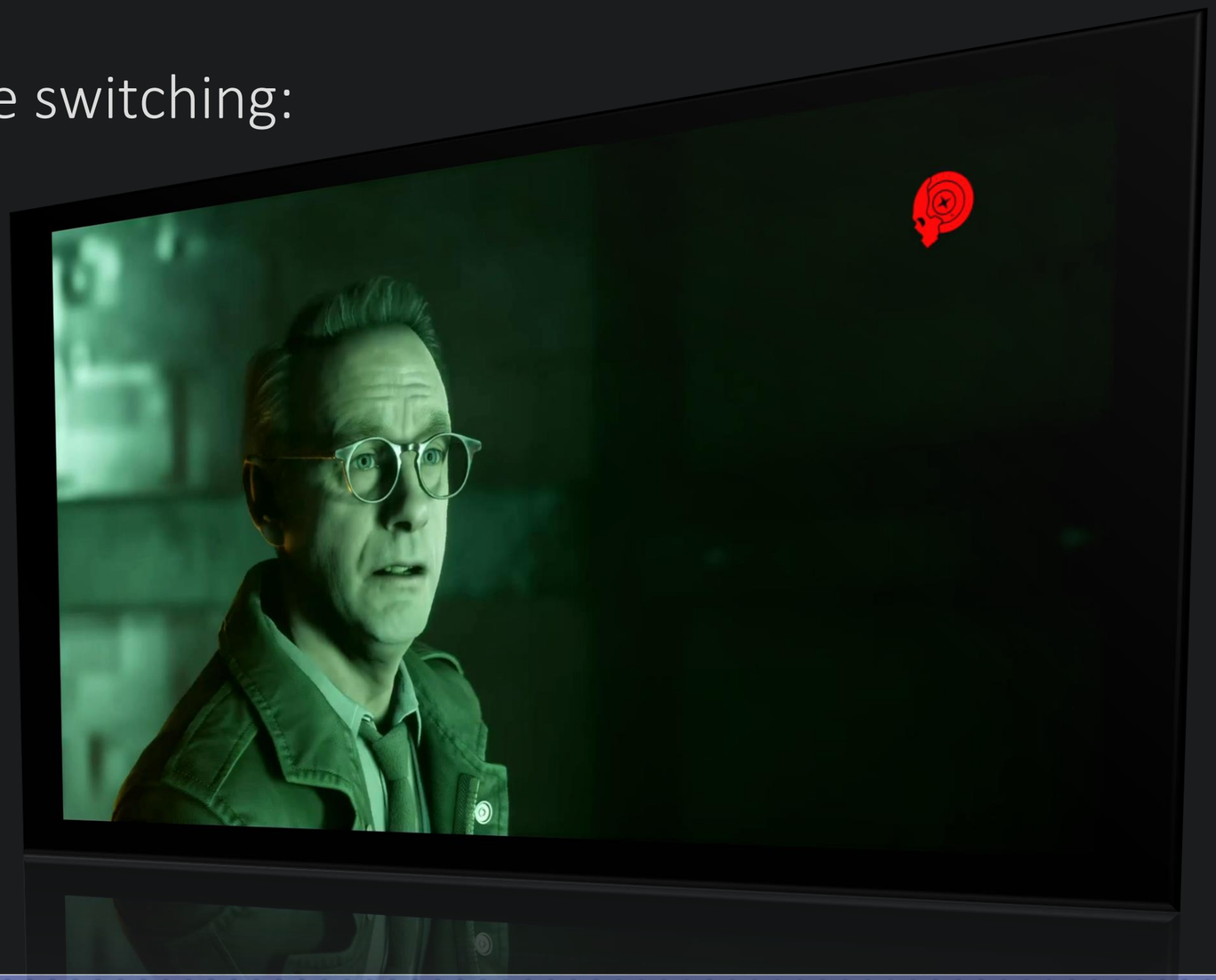
- Start fully diegetic from gramophone
- Rise up gradually – narrative intensity
- Crescendo as full score



Music – Diegetic | Score

Runtime diegetic music to full score switching:

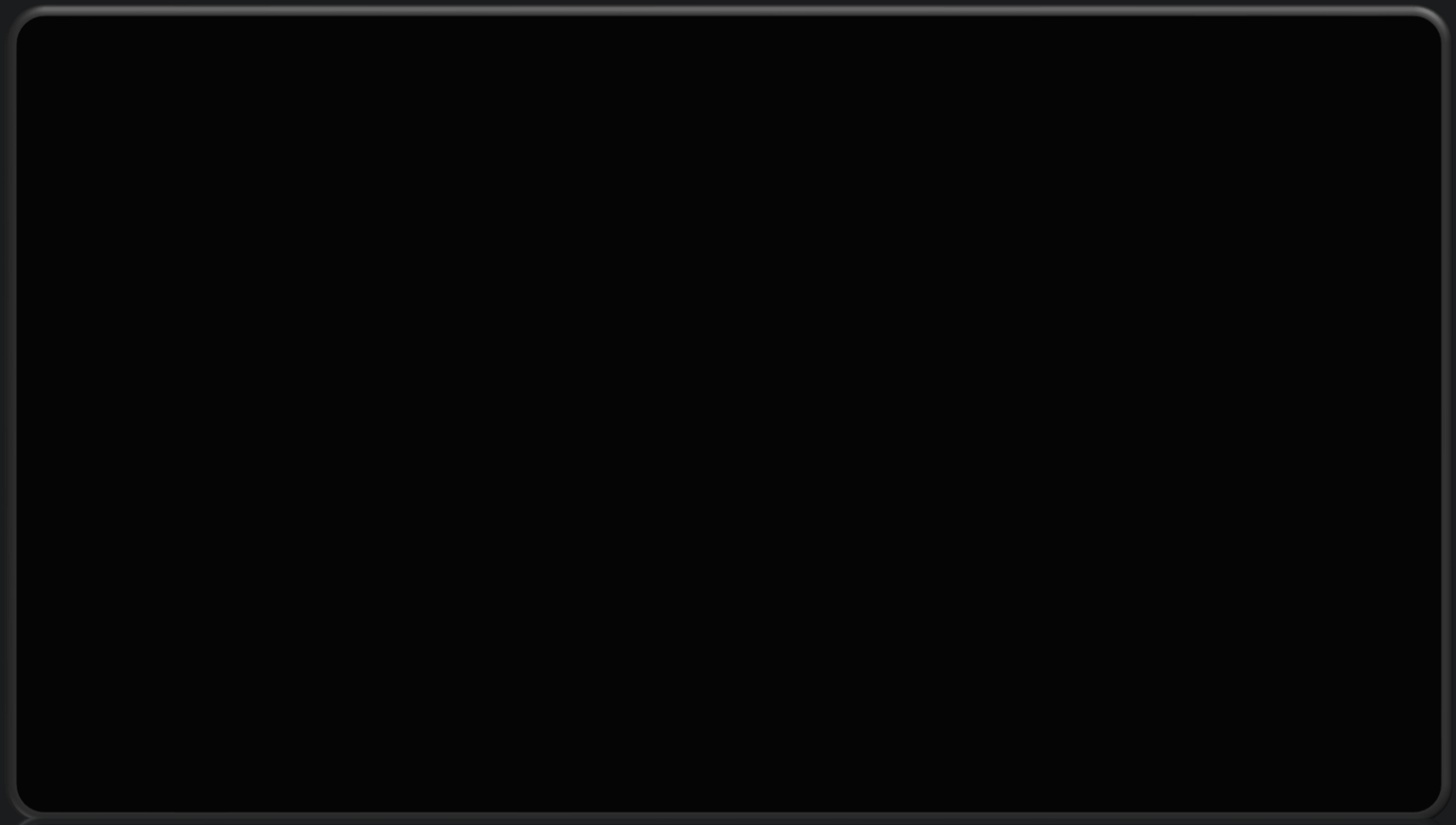
- Starts diegetic outside door
- Midway throughout the scene
- Full score at the end



Future of The Dark Pictures Anthology

DP Season 2 opener

“Directive 8020”



Thanks for listening

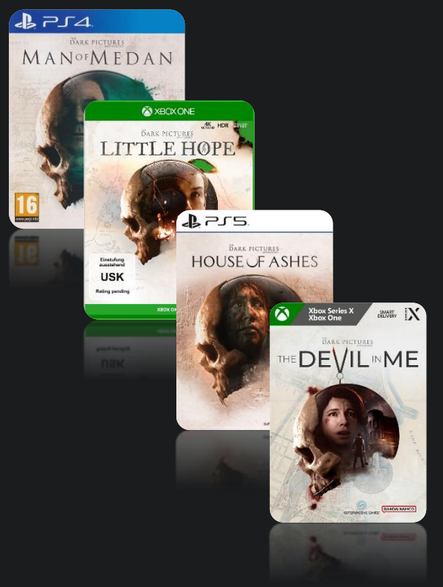
Any questions?

@SuperMGames

@BarneyPratt

www.supermassivegames.com

www.linkedin.com/in/barneypratt



Please fill out your GDC evaluation forms

PS4
THE DARK PICTURES
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XBOX ONE
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LITTLE HOPE
USK
PS5
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