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# Elements of an Engaging Sound Mix

**Kevin Regamey**

Creative Director, Power Up Audio

@regameyk - @powerupaudio



GAME DEVELOPERS CONFERENCE

March 14-18, 2016 · Expo: March 16-18, 2016 #GDC16





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# Elements of an Engaging Sound Mix

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# Player Engagement

...in regards to audio...

- 1. Technical Clarity.*
- 2. Creative Design.*



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# BALANCE



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# Balance:

The relative volume levels between audio elements.



# Clarity:

*Employ methods to avoid distortion.*

- mix subtractively
- voice prioritization
- stagger sounds; create phrases
- instance limiting



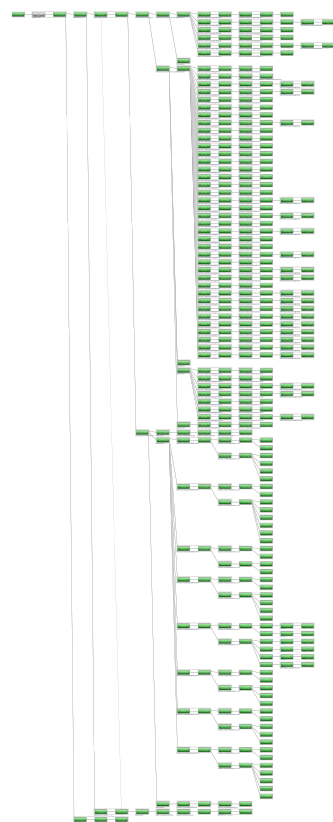


*"Kevin, there is an  
insane number of  
hoes in our game."*

*- Andy Schatz*



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# Design:

*Convey significance with volume.*

- TowerFall Ascension







# Design:

*Convey significance with volume.*

- TowerFall Ascension
- Don't Starve



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# Design:

*Convey significance with volume.*

- TowerFall Ascension
- Don't Starve
- The Beginner's Guide





# Design:

*Convey significance with volume.*

- TowerFall Ascension
- Don't Starve
- The Beginner's Guide
- That Dragon, Cancer







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# PANORAMA



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# Panorama:

The placement of audio elements in the sound field.



# Clarity:

*Give sounds a home.*

- TowerFall Ascension

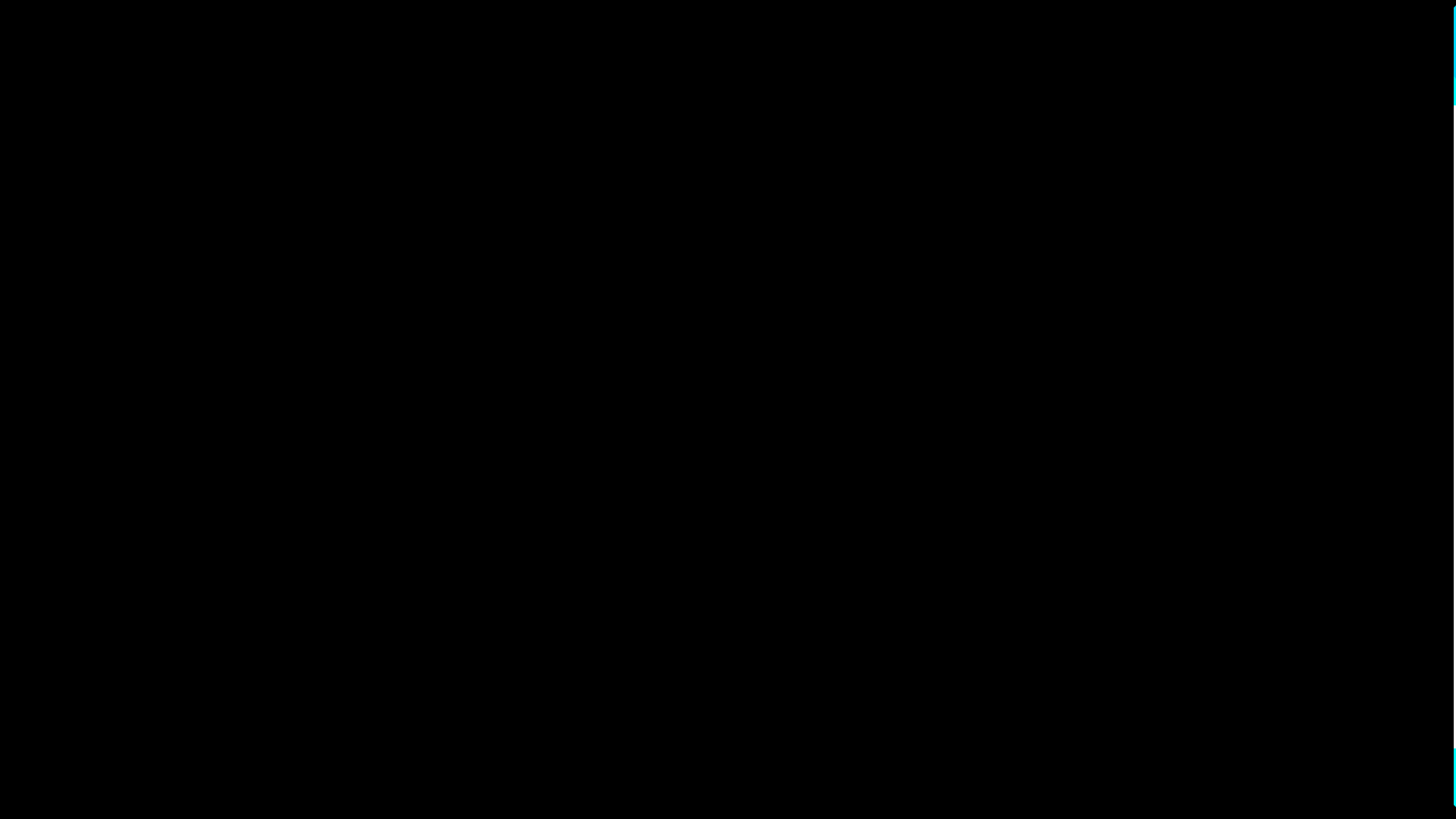




# Clarity:

*Give sounds a home.*

- TowerFall Ascension
- Mini Metro





# Clarity:

*Give sounds a home.*

- TowerFall Ascension
- Mini Metro
- Darkest Dungeon





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**Boudica**  
Hellion





22.0 / 29.0



29.0 / 100

ACC	85
DMG	5-11
CRIT	5%
DEF	10
PROT	1
SPD	2





Inventory grid showing various items, including a question mark icon, a shield icon, and a book icon.



Enemy portrait showing a character with a sword and a banner.

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# Clarity:

*Give sounds a home.*

- TowerFall Ascension
- Mini Metro
- Darkest Dungeon
- StarCrawlers



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Maxim

ALLY	ENEMY
10	45
20	120
40	15
45	120
55	110
70	30
85	45
95	120

CorpNet Mk. I

Hardslab

CopBot Rookie

RiotBot

Sinistra

CleaningBot

CopBot

Bear

100

TITAN METALLURGY

Hardslab

Sinistra

Barrakus

Bear

120

110

120

120



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# Clarity:

*Give sounds a home.*

- TowerFall Ascension
- Mini Metro
- Darkest Dungeon
- StarCrawlers



Design:

*Inform player behaviour.*

Crypt of the NecroDancer

Spelunky

Badland 2











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# FREQUENCY RANGE



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# Frequency Range:

The lowest bass to the highest treble.



# Clarity:

*Design sounds to cooperate.*

- ROCKETSROCKETSROCKETS





# Clarity:

*Design sounds to cooperate.*

- ROCKETSROCKETSROCKETS
- That Dragon, Cancer





# Clarity:

*Design sounds to cooperate.*

- ROCKETSROCKETSROCKETS
- That Dragon, Cancer
- TowerFall Ascension



# Design:

*Highlight important moments.*

- Assault Android Cactus



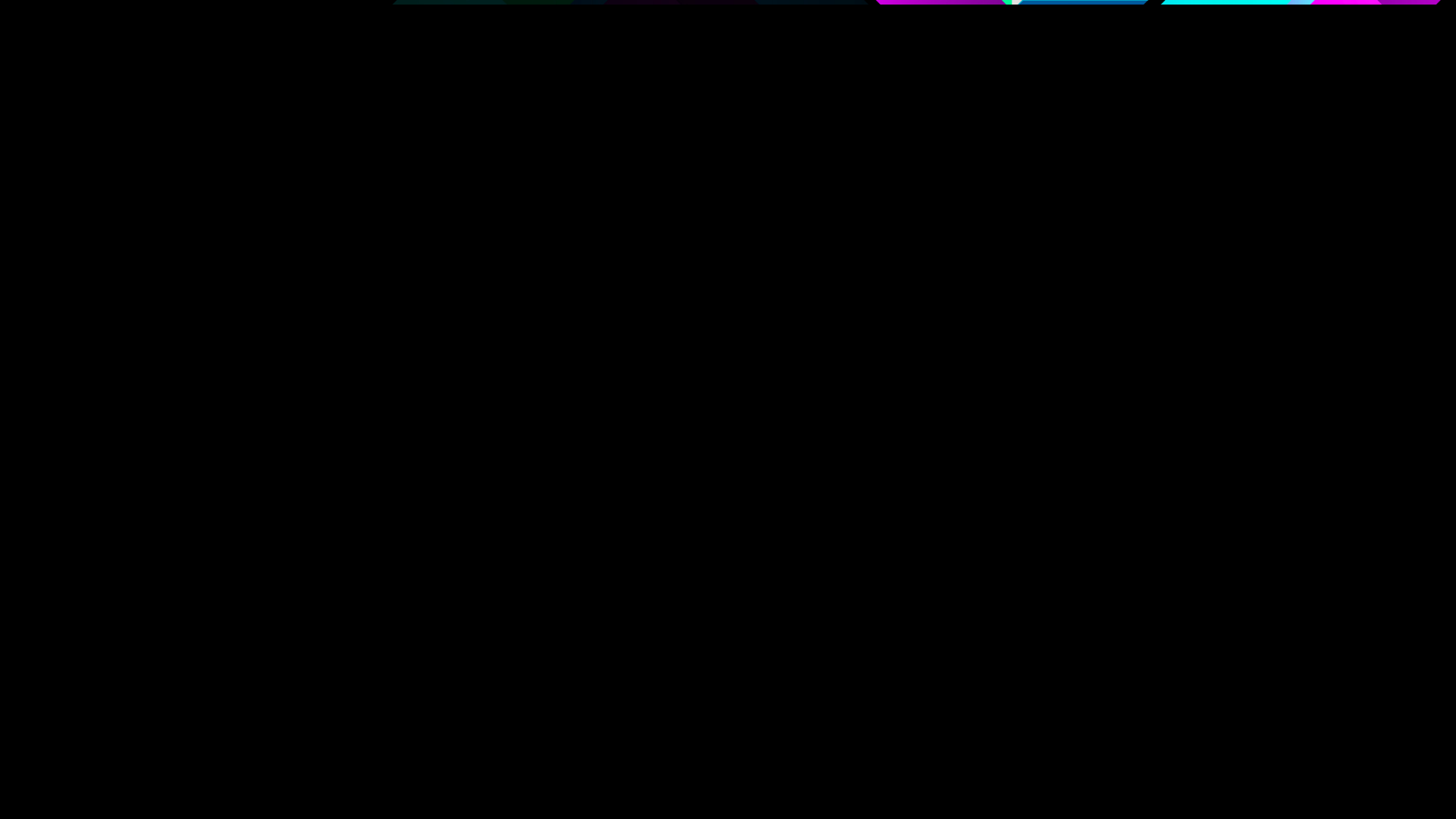




# Design:

*Highlight important moments.*

- Assault Android Cactus
- Distance





# Design:

*Highlight important moments.*

- Assault Android Cactus
- Distance
- Antichamber





# Design:

*Highlight important moments.*

- Bastion





# Design:

*Highlight important moments.*

- Bastion
- Viking Squad







# Design:

*Highlight important moments.*

- Bastion
- Viking Squad
- Mushroom 11





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# DYNAMICS



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# Dynamics:

The control of volume (*or "intensity"*)  
over time.



# Clarity:

*Make space; ensure intelligibility.*

- Darkest Dungeon
- Nuclear Throne





# Design:

*Shift focus. Reflect context.*

- Mushroom 11







# Design:

*Shift focus. Reflect context.*

- Mushroom 11
- Limbo





# Design:

*Shift focus. Reflect context.*

- Mushroom 11
- Limbo
- Mini Metro





# Design:

*Shift focus. Reflect context.*

- Mushroom 11
- Limbo
- Mini Metro
- That Dragon, Cancer





# Design:

*Shift focus. Reflect context.*

- Mushroom 11
- Limbo
- Mini Metro
- That Dragon, Cancer
- Downwell







# Design:

*Shift focus. Reflect context.*

- ROCKETSROCKETSROCKETS





# Design:

*Shift focus. Reflect context.*

- ROCKETSROCKETSROCKETS
- Assault Android Cactus





# Design:

*Shift focus. Reflect context.*

- ROCKETSROCKETSROCKETS
- Assault Android Cactus
- Darkest Dungeon





# Design:

*Shift focus. Reflect context.*

- ROCKETSROCKETSROCKETS
- Assault Android Cactus
- Darkest Dungeon
- The Talos Principle







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# DIMENSION



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# Dimension:

A sense of ambience and space.



# Clarity/Design:

*Situate your player.*

- Mark of the Ninja





# Clarity/Design:

*Situate your player.*

- Mark of the Ninja
- Crypt of the NecroDancer





# Clarity/Design:

*Situate your player.*

- Mark of the Ninja
- Crypt of the NecroDancer
- Bastion







# Clarity/Design:

*Situate your player.*

- Mark of the Ninja
- Crypt of the NecroDancer
- Bastion
- SUPERHOT





# Clarity/Design:

*Situate your player.*

- Darkest Dungeon
- SOMA





# Clarity/Design:

*Situate your player.*

- Darkest Dungeon
- SOMA
- That Dragon, Cancer





# Clarity/Design:

*Situate your player.*

- Darkest Dungeon
- SOMA
- That Dragon, Cancer
- Antichamber







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# INTEREST



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# Interest:

Basically cool shit.

# Clarity/Design:

*Do something worth talking about.*





## Balance:

- *Avoid distortion.*
- *Volume -> Significance.*

## Panorama:

- *Give everything a home.*
- *Inform player behaviour.*



## Frequency Range:

- *Design sounds to cooperate.*
- *Highlight important moments.*

## Dynamics:

- *Make space.*
- *Shift focus; reflect changing context.*



## Dimension:

- *Situate your player.*

## Interest:

- *Raise some eyebrows!*



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