

GDC

March 20-24, 2023
San Francisco, CA

Embracing Audio Technology for Enhanced Creativity

Paolo Armao

34BigThings, Audio Director

#GDC23

34 34BIGTHINGS

THE JOURNEY

- 1 The Listening Art
- 2 Creating Connections
- 3 A 3-Step Creative Process
- 4 Open Question



Redout II

RACE FASTER THAN EVER



THE ART OF LISTENING



Our hearing is the most adamant of our senses. It's the last thing that goes with anesthesia and it's the first thing that comes back as we awake.

Dirk Schwender, professor of anesthesia

HEARING SYSTEM

- Full maturity at around **20 weeks** into gestation
- **Always** awake
- Our brain processes a **vast amount of auditory information** daily

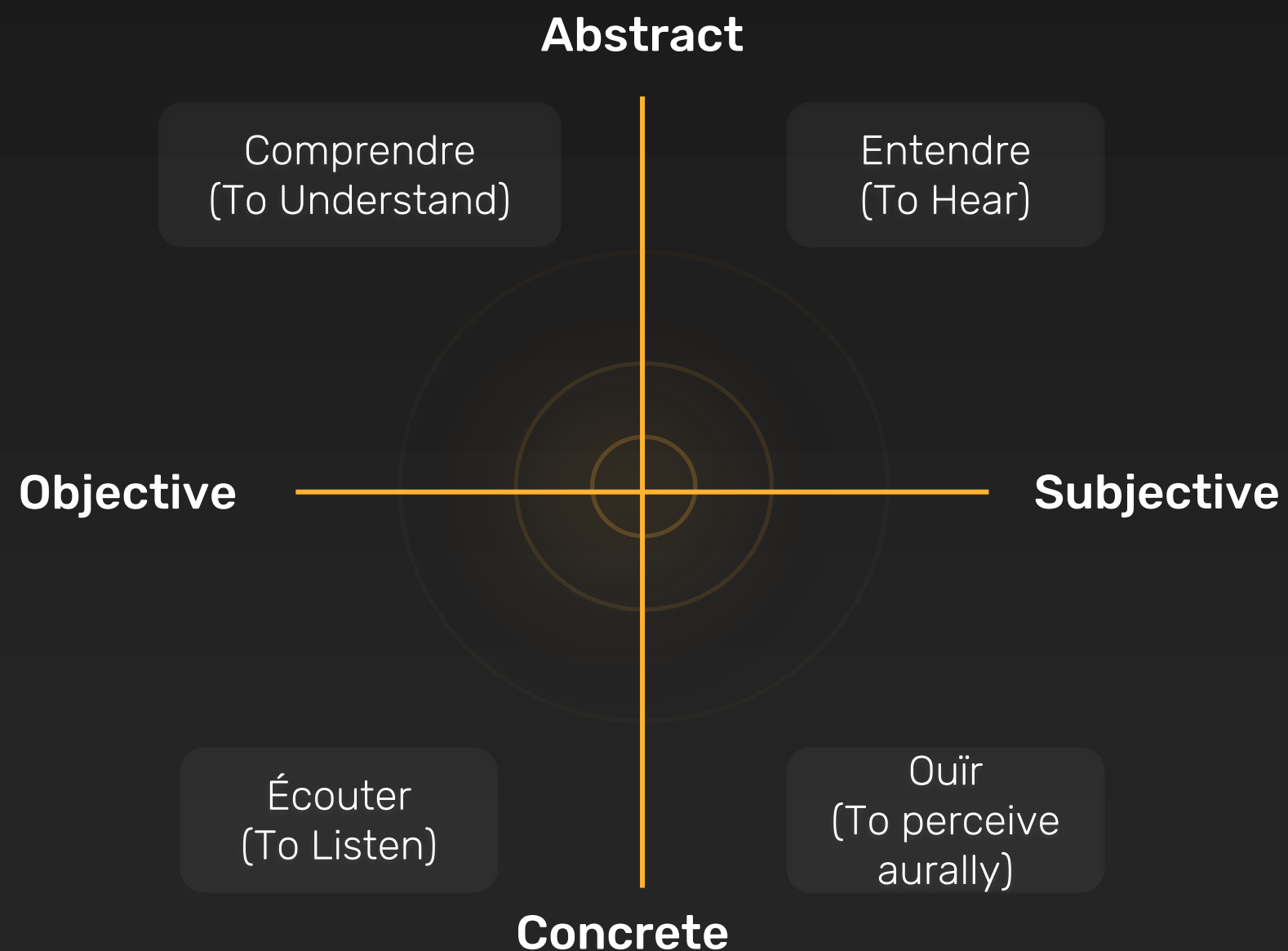


ECHOES OF DOLCE VITA

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GDC

THE FOUR LISTENING MODES



*To listen as well as to look or to
contemplate is to touch the work in each
part - or else to be touched by it*

Jean-Luc Nancy

COMPARING SOUND EXPERIENCE

PERSPECTIVE

Active

Passive

LISTENING

Conscious

Unconscious

VOCABULARY

Tech

Non-Tech



A LISTENING TRIANGLE

SOUND DESIGNER

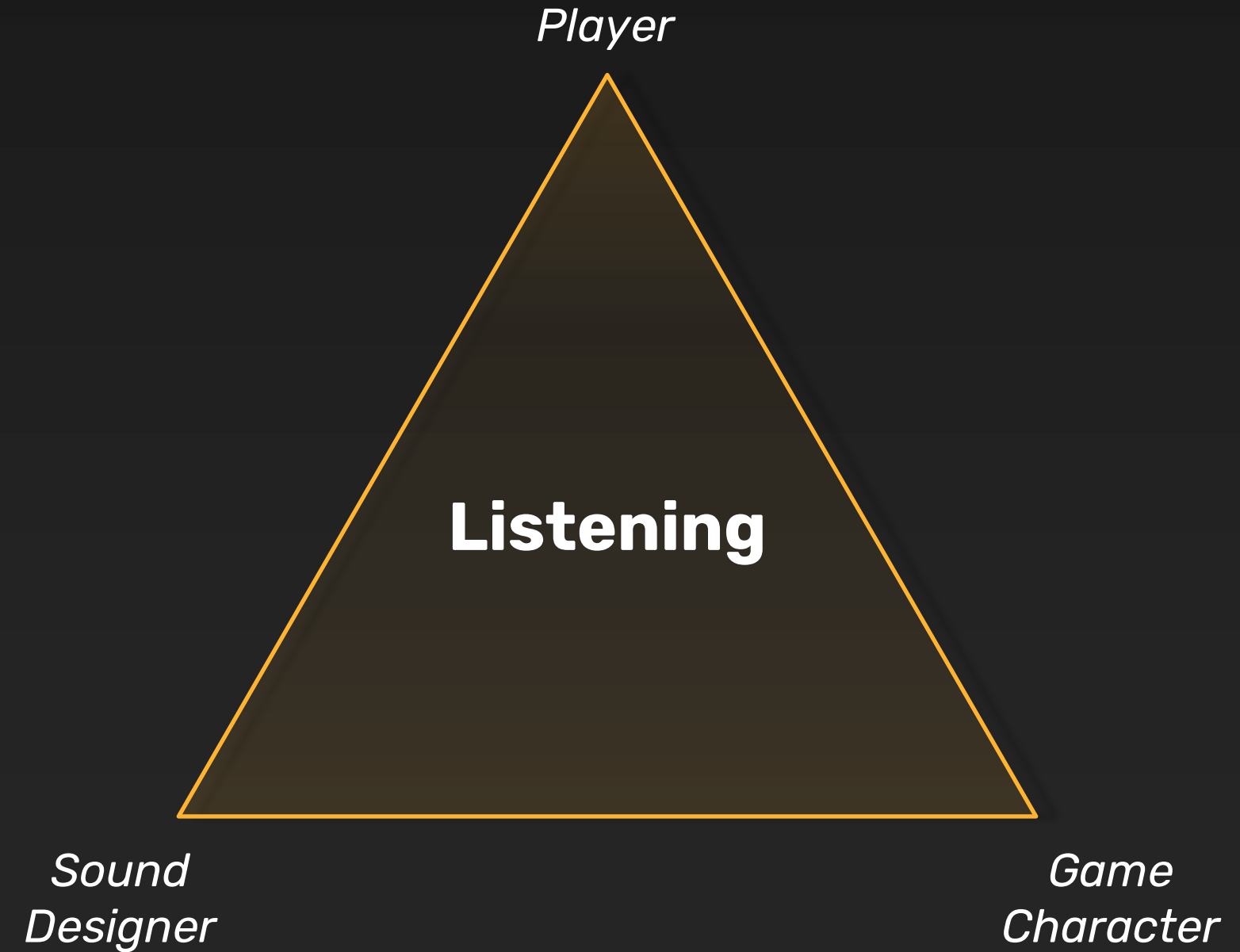
empathize with character + player

GAME CHARACTER

how sounds reflects its personality?

PLAYER

immersive experience with Sound Design



BRIDGING THE GAP

WITH THE CHARACTER

- Understand their unique perspective
- Reflect their identity



WITH THE PLAYER

- Capture their attention while playing
- Leave a lasting impression after

CONNECTING WITH CHARACTERS: STRATEGIES

Pressure

Flow

Power

Sound of
the Future

Focus

A Free Writing Exercise

Adrenaline

Freedom

Trance

Frustration







Adrenaline
Junkie

Nostalgia

Vibration

CONNECTING WITH THE PLAYER

- Real Life Vs. Immersive Worlds
- Sound as camera focus
- Creating deep boundaries
- Gain Trust

Mix type	Music	Player Engine	NPC Engines
<i>Driving solo</i>			
<i>In the pack</i>			



Sound is important for mood setting, anticipation, and directing attention. Sound goes deeper: a sonic approach is often more revealing than the conventional visual one.

The sonic is about the connection between viewer and viewed. It's more intimate and passionate, it gets under your skin like a successful pop song.

Julian Henriques

CONNECTING WITH THE TEAM

- Engage/Involve in the audio work.
- Small actions to keep music and sound at the forefront of their minds.
- Don't limit conversation to work-related stuff.



- *Valuable insights into the creative process.*
- *Show how music is connected to the vision for the game.*
- *Creates a positive feedback loop.*

REDOUT 2 MUSIC GENRES

Old Cairo	Drum and Bass
V.E.R.T.E.X.	Outrun (Synthwave)
Neo Tokyo	Electro Metal
Mt. Fuji	Psy-trance
Black Hole	Techno
Mariana Trench	Psy-trance
Tartarus Mines	Metal Step
Mars 2 Memorial	Italo Dance
Genesis	Metal Step
Ocean Cloud/New Macau	Electro Step

3-STEP CREATIVE PROCESS



Improvise



Sculpt



Detach



IMPROVISE

- The performative aspect
- Instinct & Intuition
- The power of improvisation

*Uniformity is monotonous
while diversity is thrilling*



REDOUT 2: ENGINE PILLARS

- Up to 1000 mph
- One gear only
- Not a driving simulator, not an arcade
- Engine Sonic Branding
- Different engine technologies

SCULPT

- Shape the aesthetics design
- Add details/texture

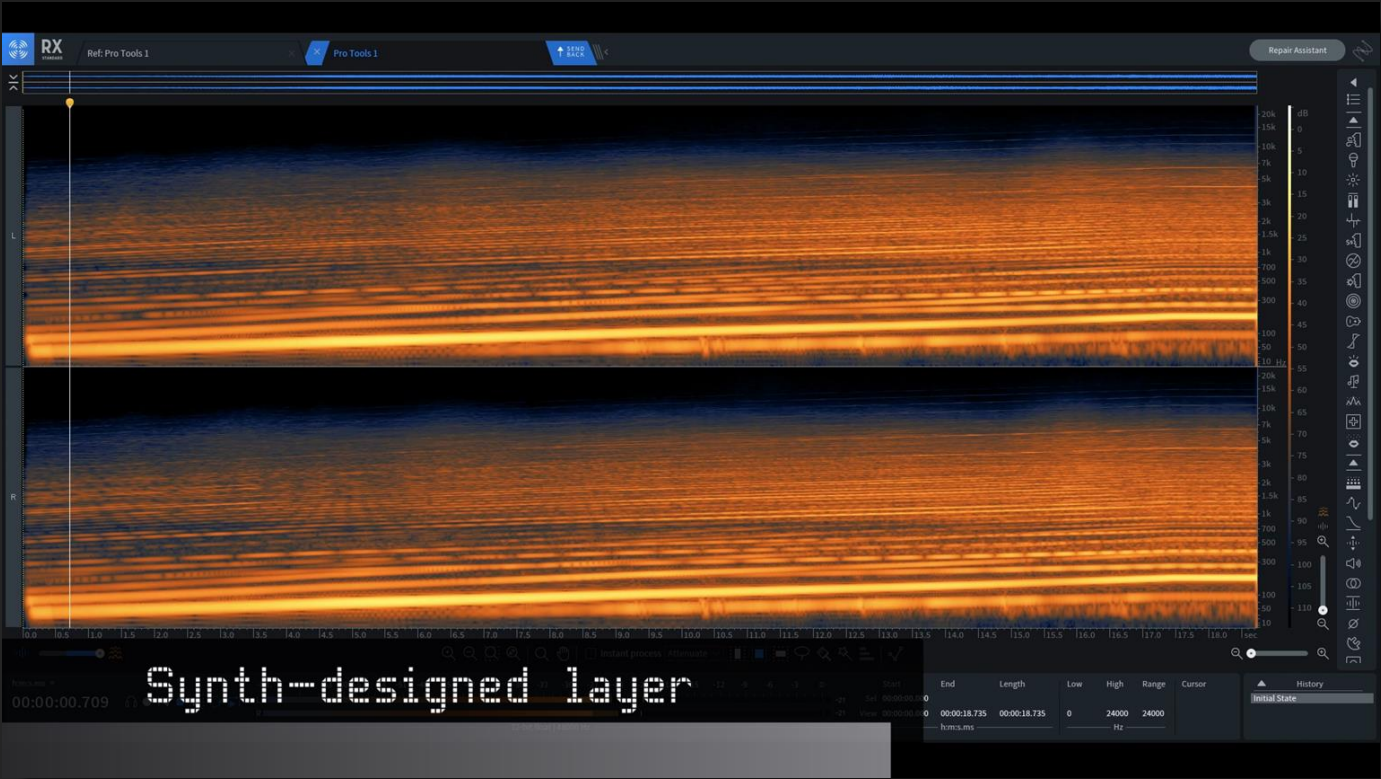
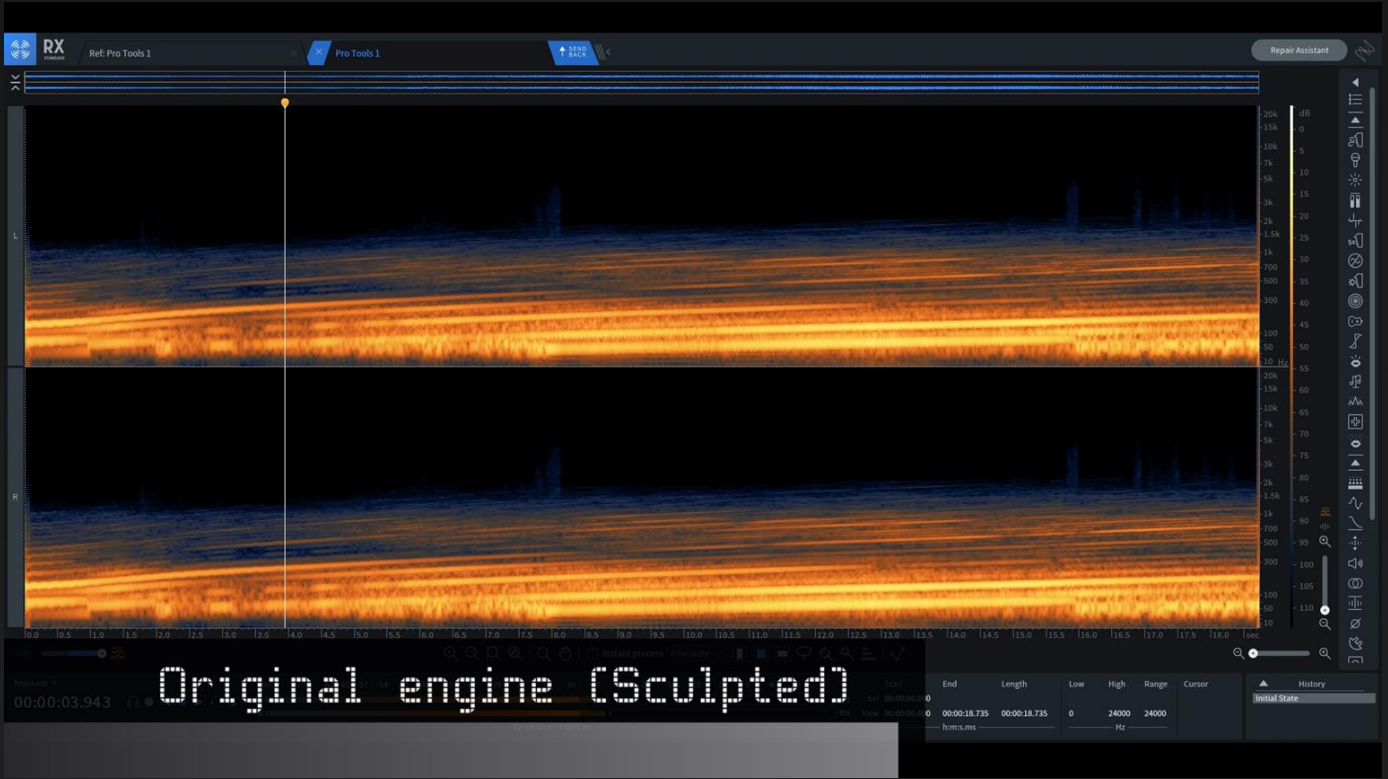
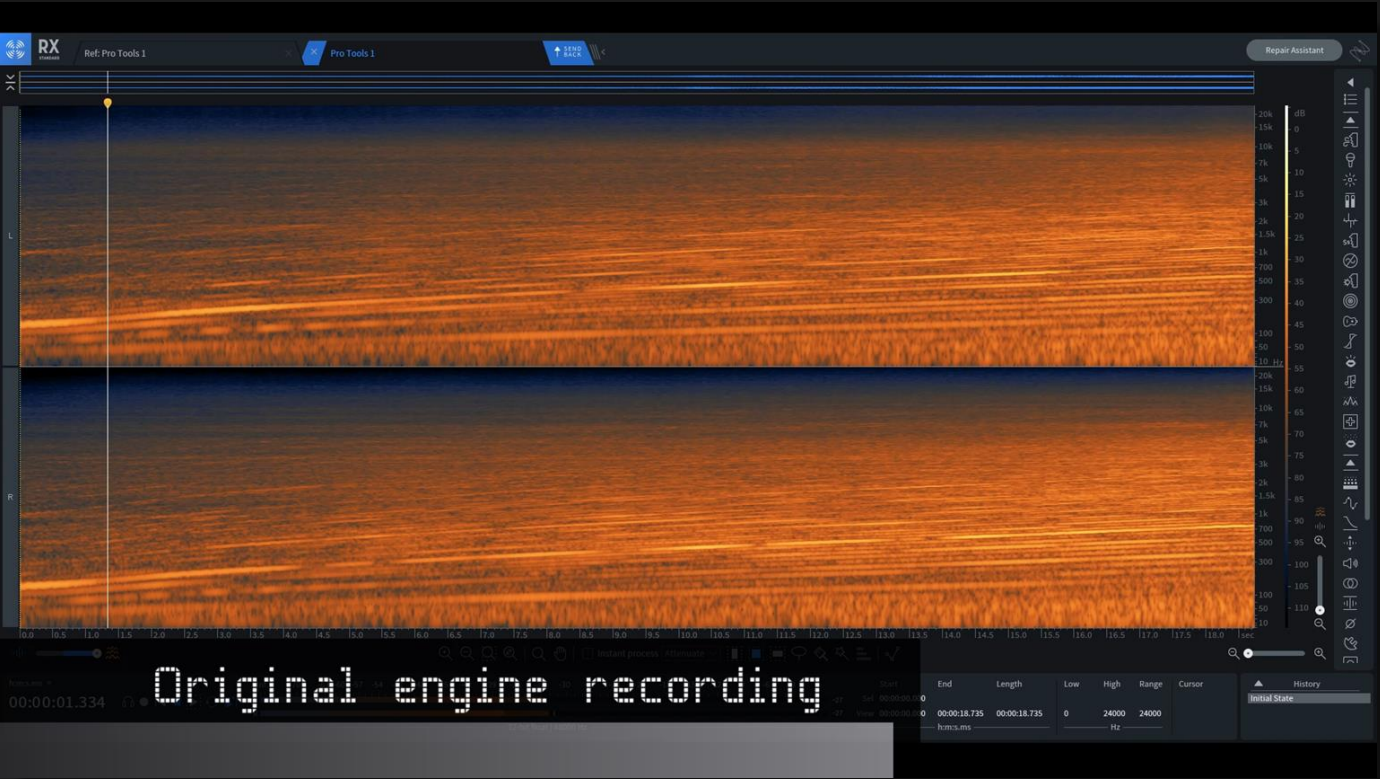
*No matter what tools you use to create,
the true instrument is you*

R. Rubin



ENGINE AESTHETICS

Team	Real World Engine Reference	Libraries 
Lunare	Ferrari FXX Evo	Lamborghini Aventador
Asera	Kawa Ninja H2R, H2R Supercharged	Kawasaki Ninja ZX10R
Sulha	Formula 1	<i>Synth generated</i>
Koen	Honda Moto GP	Audi R8 2017
Conqueror	Porsche 993	Corvette C6 Racecar
Esa	Jet Engine, Jet Car	Lotus Exige-S 2013
Akhal-Tech	Formula E	<i>Synth generated</i>
Buran	BMW E89 z4 GT3, Truck Race	Dodge Ram 1500 HEMI SUV 2014
Helix	Audio 200 Quattro	EXTRA 330LX (Aircraft)
WRG	Ducati Desmosedici, DesmoRR	Yamaha MT 09/2015
Mantis	f-16	Nissan GTR r35 2012
Behemoth	Honda Goldwing Cafè Racing	BMW S1000RR HP4 2012



OBLIQUE STRATEGIES

1

Make an exhaustive list of everything you might do and do the last thing on the list

2

Discover the recipes you are using and abandon them

3

Look closely at the most embarrassing details and amplify them





*p.s: Now i have a new issue:i can't. stop. f*****g. listening to them.
it's getting to the point where i launch the game only to listen to
them because they're just that good. send help ASAP*

Redout 2 player

Open Question

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 www.paoloarmao.com

TEAM

Executive Producer
Creative Director
Game Designer
Audio Programmer
Music Implementation
Sound Designer
Audio Director

Valerio Di Donato
Ivano Zanchetta
Giuseppe Franchi
Giacomo Ferronato
Stefano Caiazzo
Claudio Affaba
Paolo Armao

Redout II

RACE FASTER THAN EVER

PLAYING TO THE BEAT

*The Co-Dependence of Sound
and Music in Redout 2*

**Thursday, March 23rd,
4:30pm
@ Booth S941**



Thank you! 😊