



Virtual Reality & Real Audio

Simon Pressey - Director of Audio @ Crytek
Florian Füsslin - Audio Director @ Crytek

Simon Pressey – Director of Audio at Crytek

- Audio engineering production
 - 20+ years of popular music engineering and production
 - Post production, SFX editing , Foley Recordist , Mixer
 - Commercials-Film and TV
 - Video games- since 2000
 - Ubisoft –Montreal, Director of Audio
 - Rainbow Six, Splinter Cell, Prince of Persia, Myst, Assassins Creed... etc.
 - Bioware- Edmonton, Audio Director
 - Dragon Age , Mass Effect
 - Sony , SCEE, Senior Sound Designer
 - R&D, Loudness -23LUFS
 - Crytek – Director of Audio
 - Ryse, Warface, The Climb, Robinson-The Journey, Return to Dinosaur Island, CryEngine



Florian Füsslin - Bio



- Audio Director in Frankfurt
- 10 years in Game Audio
- Crysis Series, Ryse: Son of Rome, Warface
- CRYENGINE Technology Demos
- CRYENGINE Audio Pipeline



- CRYTEK was founded 1999 and is a leading, internationally operating developer and publisher of video games
- Main Office in Frankfurt, Germany
- Studios in Ukraine, Hungary, Bulgaria, South Korea, China, Turkey and USA
- Centralized Audio Department
- Embedded Audio Designers per Project



FIRST FINDINGS

- Isolation & Immersion
- Dynamics & Loudness Range
- Diegetic & Non-Diegetic
- Player & Presence
- Audio & Leading
- The New Smoke XY & Z

ISOLATION & IMMERSION

- Remove the player from the surroundings they are in, and replace it with what they are experiencing visually.
- Whilst the player is still hearing the Real World, they can't let go of it.
- As soon as you mask reality the more accepting of the new visual reality the brain can be.
- When it hears it's in a small room it still is.

ISOLATION & IMMERSION

- Close your eyes
- Imagine the vista





ISOLATION & IMMERSION

- The auditory system is hard to deceive.
- It updates much more rapidly than the visual system.
- If it doesn't sound 'real' it's more difficult to believe.
- You know where your head is, and in VR you are even more aware of this, even though you don't have a body. Your ears (brain) need to believe they are in the world.
- Audio needs to reproduce the VR's total world of both story and action.

BACK TO DINOSAUR ISLAND

- Physical Interaction (Dragonfly, Dino, Eggs)
- Focus on Immersion
- Focus on Perspective
- Focus on the Action
- Focus on Positioning

DYNAMICS & LOUDNESS RANGE

- Wider is better.
- People like loud.
- Just not ALL the TIME!
- In the isolation of headphones wide dynamics are possible and necessary.
- Less listener fatigue.
- More REAL!

DIEGETIC & NON-DIEGETIC

WHAT YOU SEE IS WHAT YOU HEAR – NOT NECESSARILY 😊

DIEGETIC

- Diegetic Sound or actual sound coming from the action or environment of the media
E.g. Voices of characters, World Sounds, Foley, etc.

NON-DIEGETIC

- Non-Diegetic or commentary sound stands for audio which has additionally implied in the action
E.g. Narrator, Dramatic Sound Effects, Mood Music

DIEGETIC & NON-DIEGETIC

- Much more difficult to accept non-diegetic music
- If you want a cinematic moment with music set up a cinematic visual
- Very short stings that accent drama
- Mix from Diegetic to Non-Diegetic

PLAYER & PRESENCE

- Connecting the player to their in game sound
- Player acceptance of breath and voice immersive or distracting
- Binaural recordings for player sound
- Context makes it believable
- Requirement of intelligent dialog systems

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AUDIO & LEADING

- Provoking Player Awareness
- Avoiding distraction - Listener Angle - Ducking
- Creating distraction - Foreshadow
- Creating believability - Immersion
- Sustaining believability - Avoid Repetition

THE NEW SMOKE XY & Z

- Rendering all the sounds in a world in true 3d is more involved.
- Focus and prioritization is essential
- We can only really listen to one thing at a time. Especially if it is moving.
- The rest is there but we don't really spatialize it. Cocktail Party Effect

AUDIO FOCUS IN 3D

- The closest
- The loudest
- The most important of that moment
- The biggest mover
- In the 2-4k frequency range

Real Audio Makes Virtual Reality

- Audio is significant in VR
- The more realistic the better
- Work with hyper realistic detail
- Update on tools/tech required
- Update on Audio Hardware

QUESTIONS

Crytek Booth #1602 South Hall

Career Center #2402 North Hall

THANK YOU



