

Virtual Reality & Real Audio

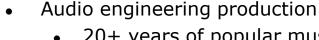
Simon Pressey - Director of Audio @ Crytek

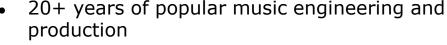
Florian Füsslin - Audio Director @ Crytek





Simon Pressey – Director of Audio at Crytek





- 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

