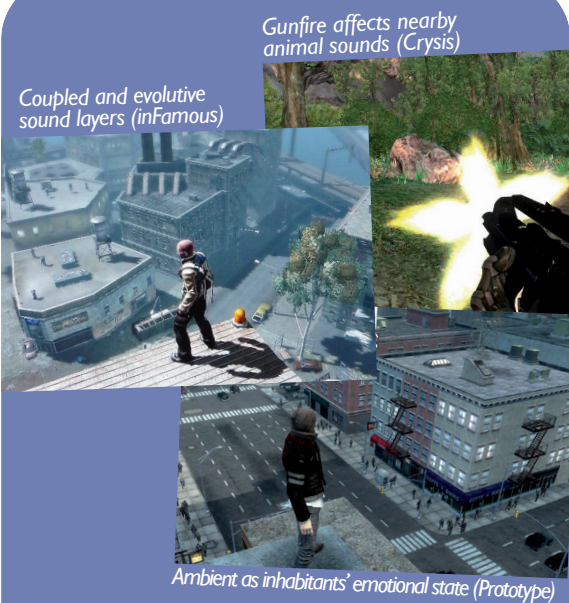




Info and resources at [soundingames.com](http://soundingames.com)  
v2.0, Oct 2011

# Sound Design in Games



Coupled and evolutive  
sound layers (*inFamous*)

Gunfire affects nearby  
animal sounds (*Crysis*)

Ambient as inhabitants' emotional state (*Prototype*)

# Acoustic Ecology

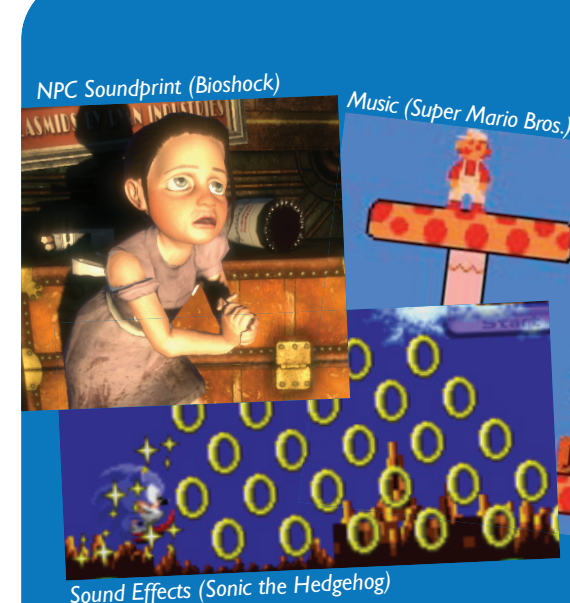


"beauty, tragedy, fear, degradation, intelligence" (*Bioshock*)

Musical approach, with  
a dark mood (*The Path*)

Minimalist acousmatic composition (*Limbo*)

# Aesthetics



NPC Soundprint (*Bioshock*)

Music (*Super Mario Bros.*)

Sound Effects (*Sonic the Hedgehog*)

# Signature



(*Guitar Hero 5*)

(*SingStar*)

(*Disney Sing It!*)

# Pitch Gameplay



(*Patapon*)

(*Rhythm Paradise*)

(*Guitar Hero*)

# Rhythm Gameplay



Action-dependent  
music tempo (*Far Cry 2*)

Scuba breathing inducing pace  
(*Endless Ocean*)

Accelerating drowning music  
(*Sonic the Hedgehog*)

Lively pace (*Patapon*)

# Entrainment



Variety in recurring events  
such as death (*Uncharted 2*)

Variety in music  
composition (*Otocky*)

Variety in foley  
(*Assassin's Creed*)

# Variety

## Signature

Creating a distinctive and memorable association with a sound

*May relate to:*  
Identification

*May use many, including:*  
Aesthetics, Sound Effects,  
Character Soundprint,  
Footsteps, Grunts, Music



## Aesthetics

Defining artistic characteristics common to all sounds

*Context:*  
Acoustic Ecology



## Acoustic Ecology

Designing sound in a holistic way, as influenced by the discipline of Acoustic Ecology

*Contexts:*  
Ambiance, Foley, Sound Effects, Music, Dialogue, Foley Music, Diegetic Music, Chitchat, Character Soundprint, Identification

*May use:*  
Aesthetics



## Sound Design in Games

A deck-based approach to a Pattern Language for Sound Design in Games, strongly influenced by Acoustic Ecology and subject to the principle that Sound Design in Games benefits from being embedded in the overall Game Design



## Variety

Triggering alternate sounds not to compromise the experience

*Contexts:*  
Foley, Sound Effects, Ambiance, Music, Dialogue, Identification



## Entrainment

Changing the player's internal rhythms through acoustic stimulation, eventually inducing emotions and behaviour

*Contexts:*  
Emotional Script, Trance, R-A-E-D Iterations, Relaxation, Anticipation, Engagement, Decay, Window of Opportunity, Hurry Up!

*May use:*  
Heartbeat, Breath, Footsteps, Music, Rhythm Gameplay, Foley, Ambiance



## Rhythm Gameplay

Acting in sync with a rhythm

*Contexts:*  
Consequent Sound, Entrainment

*May call for:*  
Sound Visualization, Sound Input, In-game Feedback, Levelled Performance



## Pitch Gameplay

Exploring the tonal accuracy of the player's voiced input

*Uses:*  
Sound Input

*Often uses:*  
In-game Feedback, Sound Visualization, Levelled Performance



(Uncharted 2) (lco)

UNCHARTED 2 AMONG THIEVES

SPORE origins

SUPER MARIO BROS. 2

(Spore Origins) (Super Mario Bros. 2)

## Title Screens

(Metal Gear Solid 4) (lco)

Take this. And hope you don't have to use it.

(Silent Hill)

## Cutscenes

Contextual Ambiance (Half-Life 2) Sound effects, custom music (Tetris iPhone)

UNCHARTED DRAKE'S FORTUNE

Music, instrument tones (Uncharted)

## Menus

Speech (Tom Clancy's End War) Pitch (SingStar)

Buttons (Patapon) Menu of sounds (Aquaria)

## Sound Input

Crowd reaction, instrument sounding (Guitar Hero) Facial expressions (Rhythm Paradise)

Match the rhythm!

Acting, intonation and messaging (Patapon)

## In-game Feedback

Learning songs one at a time (Patapon) Selectable difficulty levels (Guitar Hero)

PATA PATA PATA PON!

LEARNED THE BIND SONG

FROM THE IMPRISONED SOUL I INHERITED A NEW SONG.

## Levelled Performance

Onomatopoeia (Cut the Rope) Pulsating border (Patapon)

DING DONG

Sound waves (Ecco the Dolphin)

## Sound Visualization

Finding the way, through sound localization (Papa Sangre)

Locating a point of interest (Read Dead Redemption) Promptly spotting an enemy (Far Cry)

## Directionality

## Sound Input

The way sound enters the gameworld

*Contexts include:*

Consequent Sound, Pitch  
Gameplay, Rhythm Gameplay,  
Make Sound not War, Address  
Others, Sing to Act

*May relate to:*

Sound Visualization

*May call for:*

Levelled Performance,  
In-game Feedback



## Menus

Sounds in game menus

*Peers:*

Title Screens, Cutscenes

*Often uses:*

Music, Contextual Music,  
Sound Effects

*May use:*

Foley



## Cutscenes

Sound of cinematic pieces

*Contexts:*

Narrative, Emotional Script

*Peers:*

Title Screens, Menu



## Title Screens

Sound during the presentation of  
a game product

*Contexts:*

Signature, Emotional Script

*Peers:*

Menus, Cutscenes

*Often uses:*

Music, Sound Effects



## Directionality

Exploring the identification of the  
direction of a sound source

*Context:*

Awareness

*May relate to:*

Beacon Locator, Shout and Yell,  
Unaware NPC, Suspicious NPC



## Sound Visualization

Graphical perception of the  
occurrence of sound

*May relate to:*

Sound Input, Rhythm Gameplay,  
Pitch Gameplay

*May use:*

Subtitles and Captions



## Levelled Performance

The progressive sophistication of  
sound related performative actions

*Contexts:*

Sound Input, Rhythm Gameplay,  
Pitch Gameplay, Narrative

*Relates to:*

In-game Feedback



## In-game Feedback

Providing indicators on the player's  
acoustic performance

*Contexts:*

Sound Input, Rhythm Gameplay,  
Pitch Gameplay, Awareness,  
Emotional Script

*Relates to:*

Levelled Performance



(Oblivion) (Silent Hill)

(Grand Theft Auto IV) (Crysis)

## Ambiance

Knocking on a door (Heavy Rain)

A moving stagecoach (Red Dead Redemption)

Hitting a wooden box with a crowbar (Half-Life 2)

## Foley

(Lego Star Wars)

(Pac-Man)

(Tetris)

(Flow)

## Sound Effects

Voiced instructions (Katamari)

Hey!! I wasn't done explaining things!

Corrupt Imperial Watchman

Directions: Gray Fox Rumors

Conversation (Grand Theft Auto 4)

Invented language (Ico)

## Dialogue

(Cut the Rope)

(Half Life 2)

Man of few words, aren't you? [Elevator Bell]

JACK: Hey... you ugly mutt... laughs softly

(Dead to Rights: Retribution)

## Subtitles and Captions

Replayable audio pieces (BioShock)

MESSAGES

It has been brought to my attention that some citizens have discovered ways to hack the vending machines. I should not need to remind each and every citizen that Rapture that free enterprise foundation upon which our city has been established. Failure to be punished.

Get in the airboat, sir.

Repeatable last line (Mini Ninjas)

Corrupt Imperial Watchman

Directions: Gray Fox Rumors

Repeatable dialogue topics (Oblivion)

## Say that Again

Nolan North as Nathan Drake (Uncharted)

NOLAN NORTH "DRAKE"

SIR BEN KINGSLEY Sabine

Sir Ben Kingsley as Sabine (Fable III)

## Voice Acting

Sérgio Calvino, portuguese voice of Nathan Drake (Uncharted)

Pêpe Rapazote, portuguese voice of Carter Blake (Heavy Rain)

## Dubbing

## Dialogue

All kinds of conversation

*Many contexts, including:*  
Narrative, Emotional Script,  
Character Soundprint, Narrator,  
Thoughts, Helper Voice,  
Audio Logs, Chitchat, Seeking  
for PC, ...

*Relates to:*  
Acoustic Ecology

*Calls for:*  
Variety

*May call for:*  
Subtitles and Captions



## Sound Effects

Sounds that make abstract or  
imaginary objects concrete

*Many contexts, including:*  
Engagement, Achievement,  
Failure, Beacon Locator,  
Window of Opportunity,  
Menus, Signature, ...

*Close to:*  
Foley

*Relates to:*  
Acoustic Ecology

*Calls for:*  
Variety

*May call for:*  
Subtitles and Captions



## Foley

Sounds of ongoing actions

*Many contexts, including:*  
Engagement, Character  
Soundprint, Footsteps, Grunts,  
Sound Decoys, ...

*Close to:*  
Sound Effects

*Relates to:*  
Acoustic Ecology

*Calls for:*  
Variety

*May call for:*  
Subtitles and Captions



## Ambiance

Sounds of the environment

*Contexts:*  
Relaxation, Emotional Script,  
Narrative, Entrainment

*Relates to:*  
Acoustic Ecology

*Calls for:*  
Variety



## Dubbing

Replacing original voices,  
to adapt to other language

*Context:*  
Dialogue, Voice Acting, Narrative,  
Character Soundprint

*May call for:*  
Subtitles and Captions



## Voice Acting

Performing and recording voices  
for characters and/or narrators

*Context:*  
Dialogue, Narrative,  
Character Soundprint

*May call for:*  
Subtitles and Captions, Dubbing



## Say that Again

Allowing the PC/player to  
request to hear again

*Context:*  
Dialogue

*May call for:*  
Address Others, Variety

*Makes use of:*  
Dialogue



## Subtitles and Captions

Text that represents occurring sound

*Context:*  
Sound Visualization, Narrative,  
Dialogue, Foley, Sound Effects,  
Voice Acting

*Relates to:*  
Dubbing



Emblematic (Super Mario Bros.)

Emotive, "Live" (LocoRoco)

Procedural (Everyday Shooter)

**Music**

Singing characters, devices' jingles, performed music (BioShock)

Music box puzzle (Silent Hill 2)

Music in the car (Grand Theft Auto 4)

**Diegetic Music**

Using urban materials as instruments (inFamous)

Electricity noises used as Acousmatic music (Limbo)

Music incorporating a train sound (iGadget)

**Foley Music**

Dependent on the area of Hyrule (Legend of Zelda: Ocarina of Time)

Dependent on type of place (Oblivion)

Dependent on level (Locoroco)

**Contextual Music**

(Rez)

(Chime)

(Flower)

**Musical Outcome**

Silent ambiance (Limbo)

Silent ambiance (Silent Hill)

It's quiet. Too quiet.

Silence as an expression of mood after a defeat (Patapon)

**Silence**

Radio noise used as enemy detection (Silent Hill)

Stealth action in a noisy room (Splinter Cell: Chaos Theory)

Humming noise as ambiance (iGadget)

**Noise**

Tinnitus caused by an explosion (Half-Life 2)

A symptom of imminent death (inFamous)

Acoustic insulation collateral to the Active Camouflage power-up (Halo: Reach)

**Affected Hearing**

## Contextual Music

Music specific to particular contexts or levels

*Contexts:*  
Narrative, Emotional Script

*May relate to:*  
Diegetic Music

*Makes use of:*  
Music



## Foley Music

Music exploring sounds of objects or actions

*Context:*  
Music

*Makes use of:*  
Foley, Acoustic Ecology



## Diegetic Music

Music happening in the game world

*Context:*  
Narrative, Emotional Script

*May relate to:*  
Contextual Music,  
Musical Outcome

*May use:*  
Radio

*Makes use of:*  
Music,  
Acoustic Ecology



## Music

All kinds of music heard during the game

*Many contexts, including:*  
Entrainment, Relaxation,  
Anticipation, Engagement, Decay,  
Emotional Script, Trance, Narrative,  
Window of Opportunity, Diegetic  
Music, Contextual Music, Musical  
Outcome, Signature, ...

*Relates to:*  
Acoustic Ecology

*Calls for:*  
Variety



## Affected Hearing

Simulating hearing impairment

*Contexts:*  
Awareness, Emotional Script,  
Imminent Death

*May relate to:*  
Ouch!



## Noise

The purposeful use of noise

*Contexts:*  
Aesthetics, Acoustic Ecology,  
Emotional Script, Awareness

*Often Uses:*  
Ambiance, Foley



## Silence

Inducing the perception of the absence of sound

*Contexts:*  
Aesthetics, Acoustic Ecology,  
Emotional Script, Awareness,  
Anticipation

*Uses:*  
Ambiance



## Musical Outcome

Music generated as a by-product of in-game actions

*Context:*  
Emotional Script

*May relate to:*  
Contextual Music,  
Diegetic Music

*Makes use of:*  
Music





Music as Narrative (Flower)

Radio Conversation (BioShock)

This place is like a ghost town

Thoughts (Silent Hill)

**Narrative**

A NPC playing Narrator (Sam and Max)

PC as Narrator (Max Payne)

The PC tells the story to a NPC (Dead to Rights)

**Narrator**

Thoughts as storytelling (Tomb Raider Underworld)

Contextual menu of thoughts (Heavy Rain)

Strange... Father never used his middle initial in monograms

This place is like a ghost town.

Thoughts (Silent Hill)

**Thoughts**

Audio Diaries (BioShock)

Dead drops (inFamous)

Collect Dead Drop

Tapes (Far Cry 2)

Audio Logs (Halo3: ODST)

**Audio Logs**

(Flower)

(LocoRoco)

(Silent Hill 2)

**Emotional Script**

Temporary eatable ghosts (Pac-Man)

Fever mode (Patapon)

Speed boost (Sonic the Hedgehog)

**Window of Opportunity**

(Flower)

(Rez)

(Chime)

**Trance**

Relaxation (Far Cry 2)

Anticipation (Far Cry 2)

Engagement (Far Cry 2)

Decay (Far Cry 2)

**R-A-E-D Iterations**

## Audio Logs

Dialogue recordings, frequently scattered through the gameworld

*Context:*  
Narrative

*Possibly with:*  
Beacon Locators

*May relate to:*  
Helper Voice, Radio

*Makes use of:*  
Dialogue



## Thoughts

Revealing what a character is thinking of

*Contexts:*  
Narrative, Emotional Script

*May relate to:*  
Narrator, Helper Voice

*Often uses:*  
Dialogue



## Narrator

Resorting to an actual narrator to convey the narrative

*Context:*  
Narrative

*Differs from:*  
Helper Voice

*Uses:*  
Dialogue



## Narrative

The contributions of sound to unfold the game's story

*Relates to:*  
Emotional Script

*May use many, including:*  
Dialogue, Cutscenes, Narrator, Thoughts, Audio Logs, Radio, Eavesdropping, Contextual Music, Levelled Performance



## R-A-E-D Iterations

Iterations of the sequence:  
Relaxation  
Anticipation  
Engagement  
Decay

*Context:*  
Emotional Script

*Parts:*  
Relaxation, Anticipation, Engagement, Decay

*Makes use of:*  
Entrainment



## Trance

Sound contributing to experiencing flow or deep immersion

*Context:*  
Emotional Script

*Often uses:*  
Music, Entrainment



## Window of Opportunity

Enhancing the perception of a temporary possibility or favourable state

*Context:*  
Awareness, Emotional Script

*Includes:*  
Hurry Up!, Imminent Death

*Often uses:*  
Sound Effects, Entrainment



## Emotional Script

Sound designed to elicit emotions along the experience

*Relates to:*  
Narrative

*May use many, including:*  
R-A-E-D Iterations, Cutscenes, Window of Opportunity, Music, Contextual Music, Achievement, Failure, Grunts, Ouch!, Imminent Death, Trance, Entrainment, ...



Ambiance, music (Oblivion)

Breath-driven relaxation (pOnd)

Ambiance, music (Aquanaut's Holiday: HM)

# Relaxation

Approaching an enemy position (Far Cry 2)

Exploring the unknown (Silent Hill)

Music and ambiance in caves (Oblivion)

# Anticipation

(Killzone 2)

(Patapon)

Strike hard!  
And in rhythm!

(Need for Speed: Most Wanted)

# Engagement

All pursuers down (Assassin's Creed)

No more hostiles (Far Cry 2)

Cooldown period after chase (NFS: Most Wanted)

# Decay

Witness indicator: suspicious guards (Assassin's Creed)

Checkpoint indicator (audio only) (Tomb Raider Underworld)

Equipment status: "Energy Critical" (Crysis)

# Awareness

Celebrating victory (Patapon)

Picking items (Super Mario Bros.)

Horizontal line (Tetris)

# Achievement

Loosing rings on enemy attack (Sonic the Hedgehog)

Opponents making fun (Angry Birds)

Falling out (Edge)

# Failure

PC reaction to impossible actions (Thief)

Hired mercenaries refusing to climb (Assassin's Creed 2)

Non-usable items (Half-Life 2)

Pushing a wall without secret (Wolfenstein 3D)

# No Can Do

## Decay

A phase of gameplay of reestablishment after an engagement

*Contexts:*  
Emotional Script,  
R-A-E-D Iterations

*Peers:*  
Relaxation, Anticipation,  
Engagement

*May use:*  
Music, Dialogue,  
Entrainment



## Engagement

A phase of gameplay of explicit conflict

*Contexts:*  
Emotional Script,  
R-A-E-D Iterations

*Peers:*  
Relaxation, Anticipation, Decay

*May use many, including:*  
Foley, Special Effects, Music,  
Dialogue, Entrainment, Seeking  
for PC, Shout and  
Yell, Sonic Weapon



## Anticipation

A phase of gameplay anticipating an engagement

*Contexts:*  
Emotional Script,  
R-A-E-D Iterations

*Peers:*  
Relaxation, Engagement, Decay

*May call for:*  
Stealth

*May use:*  
Music, Entrainment,  
Heartbeat



## Relaxation

A phase of gameplay promoting a restful state of mind

*Contexts:*  
Emotional Script,  
R-A-E-D Iterations

*Peers:*  
Anticipation, Engagement,  
Decay

*Often uses:*  
Ambiance, Music,  
Entrainment



## No Can Do

Signalling something impossible

*Context:*  
Awareness

*Close to:*  
Failure

*Makes use of:*  
Sound Effects, Foley,  
Dialogue



## Failure

Signalling something negative

*Context:*  
Awareness, Emotional Script

*Includes the parts:*  
Ouch!, Imminent Death, Death

*Contrasts with:*  
Achievement



## Achievement

Signalling something positive

*Context:*  
Awareness, Emotional Script

*Contrasts with:*  
Failure



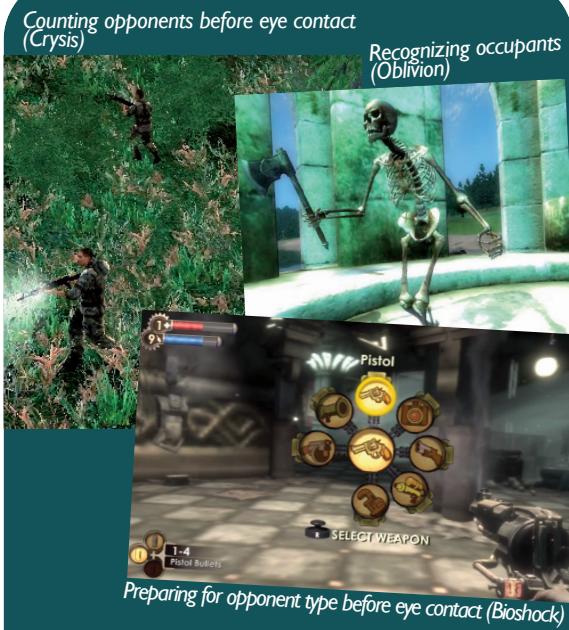
## Awareness

Sound signalling some relevant aspect of gameplay

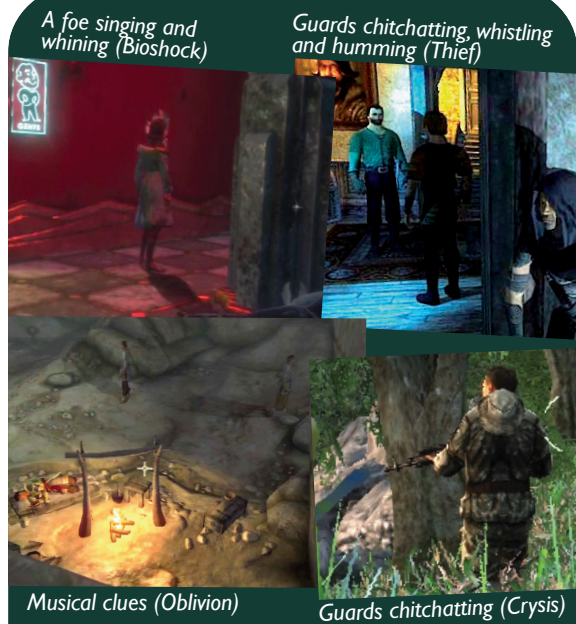
*Relates to:*  
Emotional Script, Narrative

*May use many, including:*  
Character Soundprint, Failure,  
Achievement, No Can Do,  
Window of Opportunity  
Hurry Up!, Beacon Locator,  
Identification, Ouch!,  
Imminent Death,  
Seeking for PC,  
Suspicious NPC,  
Unaware NPC, ...

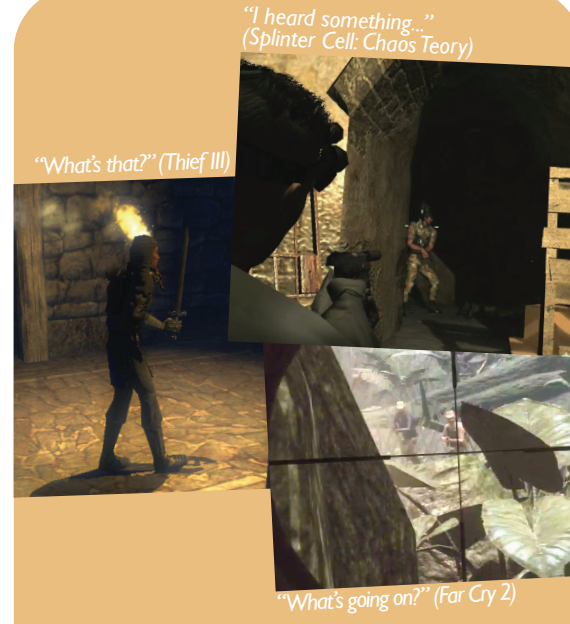




## Identification



## Unaware NPC



## Suspicious NPC



## Seeking for PC



## Beacon Locator



## Hurry Up!



## Helper Voice



## Radio

## Seeking for PC

NPC's manifestations of active chasing of the PC

*Contexts:*  
Awareness, Engagement, Anticipation

*May use:*  
Dialogue, Shout and Yell, Grunts

*May relate to:*  
Stealth, Character Soundprint, Sound Decoys

*Contrasts with:*  
Unaware PC, Suspicious NPC



## Suspicious NPC

NPC's behaviours evidencing suspicion for the PC's presence

*Context:*  
Awareness

*Contrasts with:*  
Unaware NPC, Seeking for PC

*May relate to:*  
Anticipation, Directionality



## Unaware NPC

NPC's behaviours evidencing that the PC remains unnoticed

*Context:*  
Awareness, Anticipation

*May use:*  
Chitchat, Grunts

*Relates to:*  
Stealth, Character Soundprint, Sound Suppressing, Sound Decoys

*Contrasts with:*  
Suspicious NPC, Seeking for PC



## Identification

Promoting the recognition of entities through their distinctive soundprints

*Context:*  
Awareness

*May call for:*  
Signature, Character Soundprint, Beacon Locator, Variety, Acoustic Ecology

*Should not compromise:*  
Variety



## Radio

Actual radio receivers with relevant emission

*Contexts:*  
Narrative, Helper Voice, Awareness, Diegetic Music

*May relate to:*  
Sound Suppressing, Stealth

*Relates to:*  
Audio Logs



## Helper Voice

Conveying guidance through the voice of disembodied or remote entities

*Context:*  
Awareness

*May relate to:*  
Narrative, Audio Logs, Radio

*Differs from:*  
Narrator

*Uses:*  
Dialogue



## Hurry Up!

Contributing for the sense of urge in completing something

*Context:*  
Emotional Script, Awareness, Window of Opportunity

*May relate to:*  
Imminent Death

*Often uses:*  
Special Effects, Music, Entrainment



## Beacon Locator

Items that emit sound to ease their location

*Contexts:*  
Awareness, Identification

*Often uses:*  
Sound Effects, Directionality



Discovering a magnificent sight  
(Tomb Raider: Underworld)

Entering a surprising scenario (Crysis)

Finding a treasure  
(Aquaria)

## Revelation

(Uncharted)

(Spore Origins)

(Assassin's Creed)

(f10w)

## Ouch!

Heartbeat (Uncharted 2)

Affected hearing,  
heartbeat (inFamous)

HEV suit voice, grunts, sound effects (Half-Life 2)

## Imminent Death

(Pac-Man)

(Uncharted 2)

(inFamous)

(Super Mario Galaxy 2)

## Death

"Slow motion" effect  
(Max Payne)

Playing sounds in reverse (Braid)

"Rewind" and "fast forward" effect (Braid)

## Time Twist

GLaDOS (Portal)

Suzume (Mini Ninjas)

Scrat (Ice Age: Dawn of the Dinosaurs)

## Character Soundprint

People and horses (Assassin's Creed)

Big Daddy (BioShock)

Emphasized footsteps (Limbo)

## Footsteps

(Ice Age: Dawn of the Dinosaurs)

(Tomb Raider)

(Mirror's Edge)

## Grunts

## Death

Portraying death

*Context:*

Failure, Emotional Script, Awareness

*Peers:*

Imminent Death, Ouch!

*May use:*

Grunts, Foley, Sound Effects, Dialogue



## Imminent Death

Urging a change of behaviour to avoid death

*Context:*

Failure, Awareness, Emotional Script, Window of Opportunity

*Peers:*

Death, Ouch!

*May relate to:*

Hurry Up!

*May use:*

Heartbeat, Grunts, Affected Hearing, Foley, Sound Effects, Dialogue



## Ouch!

Signalling a painful or damaging interaction

*Contexts:*

Failure, Awareness, Emotional Script

*Peers:*

Imminent Death, Death

*May use:*

Grunts



## Revelation

Expressing an encounter with something special

*Context:*

Emotional Script, Awareness

*Differs from:*

Achievement



## Grunts

Utterances associated to physical actions or conditions

*Many contexts, including:*

Character Soundprint, Awareness, Ouch!, Shout and Yell, Emotional Script, Signature, ...

*May Relate to:*

Breath, Footsteps

*Compromises with:*

Stealth

*Makes use of:*

Foley, Dialogue



## Footsteps

The sound of footsteps (extensible to any kind of being)

*Contexts:*

Character Soundprint, Awareness, Signature, Emotional Script, Stealth, Entrainment

*May Relate to:*

Breath, Grunts

*Makes use of:*

Foley



## Character Soundprint

The set of sounds of a PC or NPC

*Context:*

Awareness, Identification, Signature, Emotional Script

*May Use:*

Footsteps, Grunts, Breath, Heartbeat, Chitchat, Dialogue, Foley, Sound Effects, Acoustic Ecology

*May Relate:*

Stealth, Unaware NPC, Seeking for PC



## Time Twist

Using sound to enhance the perception of time manipulations

*Context:*

Awareness

*May relate to:*

Emotional Script





Perceiving imminent death (inFamous)

PC's arousal state (Fear Effect)

Evaluating enemies' heartbeat (Dead to Rights: Retribution)

# Heartbeat

Moving (Limbo)

Affliction (Heavy Rain)

Futo while running (Mini Ninjas)

# Breath

(Assassin's Creed 2)

(Oblivion)

(Far Cry 2)

# Chitchat

"Achtung", "Schutzstaffel" (Wolfenstein 3D)

Kung-fu kiai (Mini Ninjas)

Exuberant opponents (inFamous)

# Shout and Yell

"Uhm?! Who's there?" (Thief)

Realistic response to noise (Penumbra Overture)

Pedestrians react to car honk (Grand Theft Auto 4)

# Consequent Sound

Ico inciting Yorda (Ico)

Commanding hired personnel (Assassin's Creed 2)

Commanding the dog (Dead to Rights)

Seeking for a lost son (Heavy Rain)

# Address Others

Spacial perception (Devil's Tuning Fork)

Monsters interfering with radio (Silent Hill)

Alien locator (Enemy Zero)

# Echolocation

Sindel's Banshee Scream (Mortal Kombat: Deception)

Sonic Tank (Dune 2000)

Horns played by Megapons (Patapon)

# Sonic Weapon

## Shout and Yell

Loud manifestations of hostility

*Contexts:*  
Awareness, Engagement,  
Emotional Script, Character  
Soundprint, Seeking for PC

*Makes use of:*  
Dialogue, Grunts



## Chitchat

Dialogue that is not central to the course of action

*Contexts:*  
Character Soundprint,  
Emotional Script, Unaware NPC

*Possibly with:*  
Grunts

*Makes use of:*  
Dialogue,  
Acoustic Ecology



## Breath

Perceptible sound of breathing

*Contexts:*  
Character Soundprint,  
Awareness, Emotional Script,  
Entrainment

*Relates to:*  
Grunts

*Makes use of:*  
Foley



## Heartbeat

Perceptible sound of heartbeating

*Contexts:*  
Character Soundprint, Awareness,  
Emotional Script, Entrainment,  
Anticipation, Imminent Death,  
Engagement

*Makes use of:*  
Foley



## Sonic Weapon

Using sound to inflict damage

*Context:*  
Consequent Sound,  
Engagement

*Contrasts with:*  
Make Sound not War

*Relates to:*  
Sound Decoys,  
Sound Suppressing



## Echolocation

Using sound to perceive the environment

*Context:*  
Consequent Sound, Awareness,  
Emotional Script

*May imply:*  
Sound Input



## Address Others

Enabling the PC to use sound to address NPCs

*Context:*  
Consequent Sound

*May imply:*  
Sound Input

*Often uses:*  
Dialogue, Foley



## Consequent Sound

Designing the gameworld so that is sensitive to sound

*May use many, including:*  
Make Sound not War, Sing to Act,  
Rhythm Gameplay, Echolocation,  
Address Others, Stealth,  
Sound Decoys, Sound Suppressing,  
Sonic Weapon, Eavesdropping, ...

*May imply:*  
Sound Input



Resonating with creatures (Aquaria)

Enchanting opponents (Mini Ninjas)

Unlocking items (Legend of Zelda: Ocarina of Time)

Persuading creatures to make way (LocoRoco)

# Make Sound not War

Invoking miracles (Patapon)

Collecting strips of fabric [announced] (Journey)

Activating a shield (Aquaria)

Awakening obstacles (LocoRoco)

# Sing to Act

(Tom Clancy's Splinter Cell: Chaos Theory)

(Thief)

(Dead to Rights: Retribution)

# Stealth

Suppressor (Metal Gear Solid 4)

Moss Arrow, which creates a muffling carpet (Thief: Deadly Shadows)

Low soundprint behaviour (Splinter Cell)

# Sound Suppressing

Acoustic lure (Spore Origins)

Acoustic devices and stones (Commandos BCD)

**ACOUSTIC DECOY**

This small and extravagant invention of Me toys. Click on it to release it anywhere y disagreeable noise. You can soldiers will come over to how to take advantage of.

**HOT KEYS: G TO R**

Noisemaker arrows (Thief: Deadly Shadows)

Knocking on objects, throwing empty magazines (Metal Gear Solid 4)

# Sound Decoys

A form of Investigation (Assassin's Creed)

EAVESDROPPING

Press [G] to eavesdrop.

A feature incorporated in the binoculars (Crysis)

A mission implying eavesdropping (Thief II: The Metal Age)

# Eavesdropping

## Sound Suppressing

Enabling the reduction of PC generated sounds

*Context:*  
Stealth, Consequent Sound

*Relates to:*  
Unaware NPC, Sonic Weapon

*Makes use of:*  
Foley



## Stealth

Low profile behaviours that include adopting a small soundprint

*Context:*  
Consequent Sound, Anticipation, Emotional Script

*Includes:*  
Sound Suppressing, Sound Decoys, Eavesdropping

*May relate:*  
Genre

*Relates to:*  
Footsteps, Character Soundprint, Unaware NPC, Seeking for PC



## Sing to Act

Performing songs to achieve a purpose

*Context:*  
Consequent Sound, Make Sound not War

*May relate to:*  
Genre

*May imply:*  
Sound Input



## Make Sound not War

Exploring sound to create alternatives to conflict

*Context:*  
Consequent Sound, Emotional Script

*Relates to:*  
Engagement

*Includes:*  
Sing to Act, Sound Decoys

*Contrasts with:*  
Sonic Weapon

*May imply:*  
Sound Input



## Eavesdropping

Adopting behaviours with intention of gaining knowledge by listening to others' conversations

*Context:*  
Stealth, Narrative, Emotional Script

*Relates to:*  
Unaware NPC

*Makes use of:*  
Dialogue



## Sound Decoys

Using sound to fool the opponents

*Context:*  
Stealth, Consequent Sound, Make sound not War, Emotional Script

*Relates to:*  
Unaware NPC, Seeking for PC, Sonic Weapon

*Often uses:*  
Foley, Sound Effects

