2011 Audio4Visuals:: ::Game Sound Design

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Overview of Games Industry

- Worldwide weekend sales for Grand Theft Auto IV exceeded $500 million vs. Harry Potter 6's sales of $394 million[1]

- However, film industry is still larger due to DVD sales, rentals, TV rights etc...

- Growing markets are downloads and online

- "AAA" games $15+ million budget

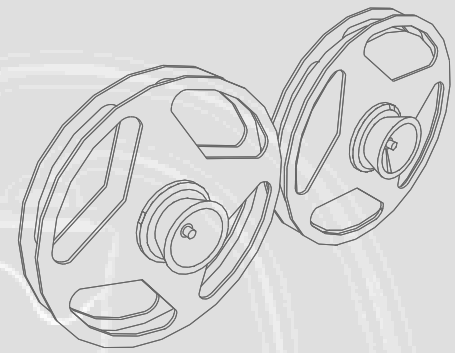- Halo 3: $55M + $200M marketing[2]

- So, video games are big business

Game Salaries

- US mainstream video game industry salary in 2009 average was $75,573 USD (~£48K)

- Sound designers and composers earned an average of $82,085 (~£52K)

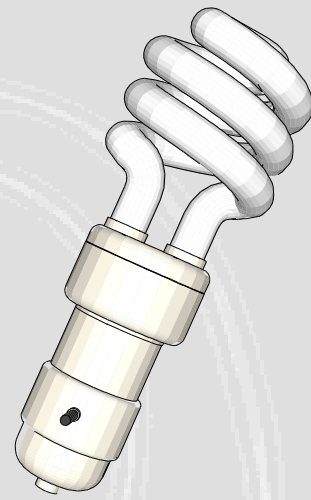- Most game audio professionals tend to be more experienced

Games vs. Film

- Games ::

  - **Interactive:** Hard to predict what will happen

  - **Technology:** Changes frequently + code

  - **Timescale:** Time experience is often longer

  - **Creativity:** Game design often very flexible

  - **Heirarchy:** Much flatter in games in general

 - **Salary:** Full-time job more likely in games

Sound Design

- **Creative** :: Design, style, recording, synthesis, editing, compositing, mastering

- **Technical** :: Define how the sound reacts to physics & environment to select or generate the sounds to trigger, where to store

- **Production** :: Purchase libraries, recording schedule, code schedule for complex real-time sounds such as engines and crowds
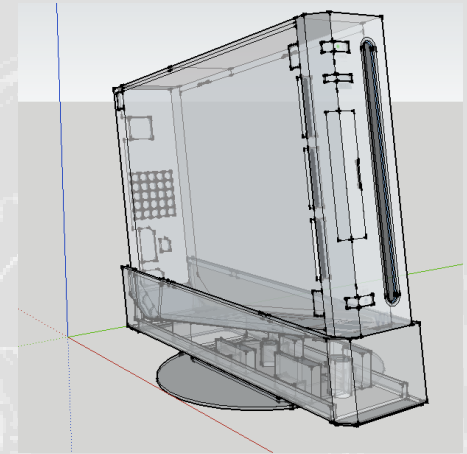
Design

- **Top-down:** Figure out your "big idea" and worry later about how to actually do it

- **Bottom-up:** Determine what tools can do and figure out creative ways to get the most of them

- Typically one alternates between the two as technical issues and process limitations will force you to be more resourceful
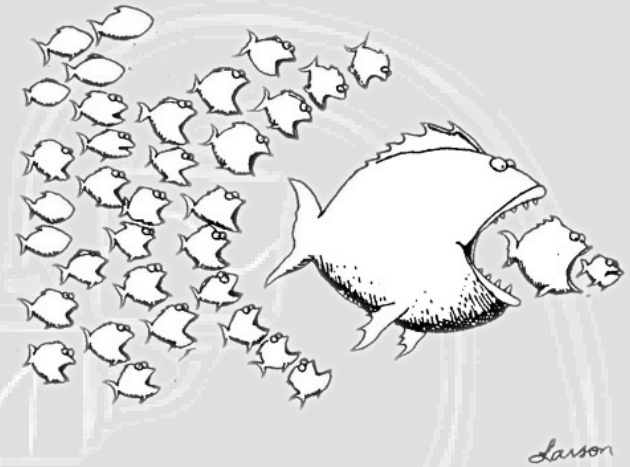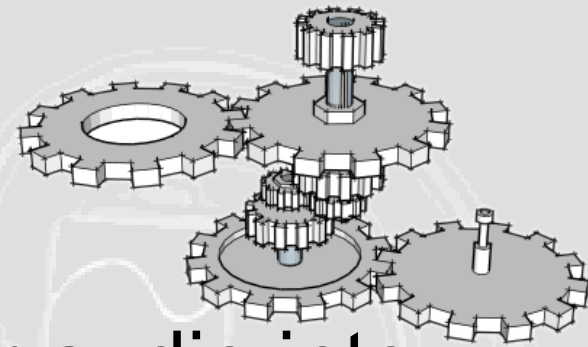
Technical

- Discover the limits of the software and hardware and push them

- Expand the software capabilities and design better audio tools to suit the game

- You will often be pressed by the team for storage space & CPU, so hold your ground

- Things can work one day and be broken (and useless!) the next

Organization

- What do you need to do to get your audio into the game? Over-prepare for the worst

- What tools and resources are you going to use and what software will support your creative design? Work well with your coder & producer

- A good process can be found by making all the right mistakes once and taking risks - exciting!

- Audio is always last, so be prepared for feature drop, no money, no time & no love

Examples

- Synthesis – Gives that "classic age" of gaming sound

- Samples – Great at capturing real sounds but difficult to change

- Software – Use game parameters to modulate sounds

Synthesis

- In Retro City Rampage almost all sounds are synthesized from pulse, triangle and noise waves

- Mod tracker allows sound artist control over parameters and mix of synthesis and samples but is also tricky to learn

- OpenModPlug Tracker is free[1]

Samples

- Often we are asked to duplicate an existing set of sounds that were placeholder

- I'll often combine samples with synthesis to give a cleaner sound with full harmonics

- Great for linear gameplay where we can predict what will happen during the length of the sample

- Do we need to fill the entire memory or is quality win over quantity ?

Procedural Sound Design

- Generate audio in real-time based on rules and behaviours

- Has been used in games since the beginning

- Parametric, generative & real-time (ie. flexible)

- Can combine samples with synthesis

- Allow flexibility of layers and real-time effects instead of stereo mixdown
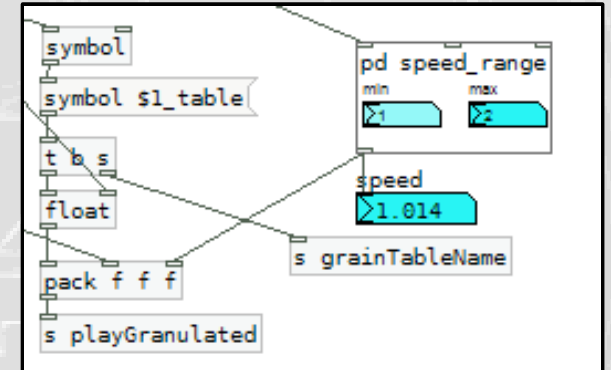
Layered Ambience

- A layered ambience is made up of several different loops

  - Country ambience could consist of frogs, wind, birds and flies

- Reactive ambience would have frogs and birds disappear for a while after a gunshot

- Flies would decrease with wind and vice-versa

Time-of-day Ambience
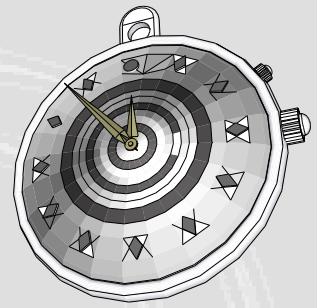
- City ambience of horses, dogs, distant wolves and crows could react to time

- Crows and wolves would trigger randomly with more crows during the day and wolves at night

- Horses would be more present during the day and dogs during morning & early evening hours

- This approach is less likely in more advanced games where all these elements are simulated

A Job In Game Audio

Electronic Arts Canada, Burnaby, BC

How Do I Get Into Games ?

- Research game audio and student sites

- Participate in forums such as SoundDesign on Yahoo[1]

- Play games and critique the audio

- Learn tools like Wwise and Fmod

- Play with languages like Pure Data or Max/MSP

- Start making games: www.moddb.com

ModDB

Game Career Guide

Indie Games –> Make your Own

- 2011 – *Retro City Rampage* – (Vblank Ent.)
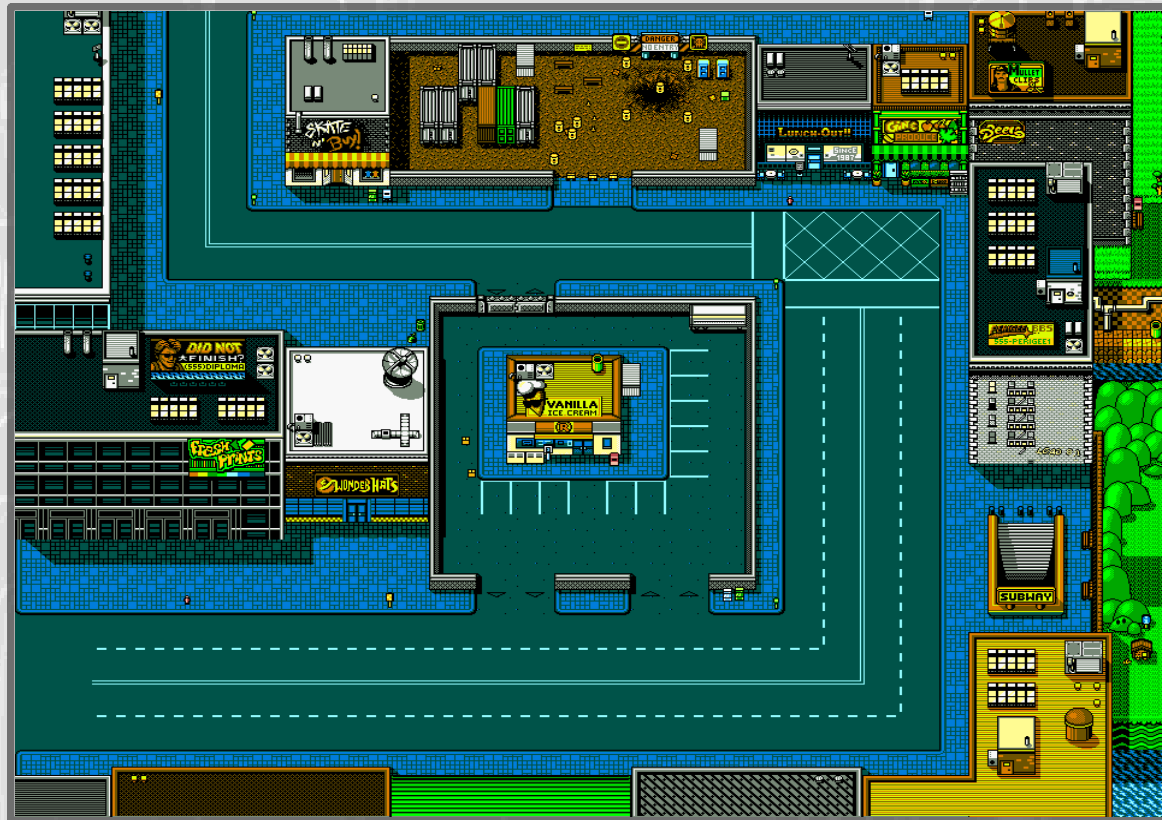
RetroCityRampage.com

Questions ?

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