Worldwide Games Industry

- Worldwide weekend sales for GTA IV $500+ million vs. Harry Potter 6's sales of $394 million\(^1\)
- Film industry is still larger with DVD sales, rentals, TV rights etc...
- Growing markets are downloads and online
- "AAA" games $15+ million budget
- Halo 3: $55M + $200M marketing\(^2\)
- Video games are big business

\(^1\) Source: [VideoGameAudio.com](http://www.VideoGameAudio.com)
\(^2\) Source: [GameIndustry.com](http://www.GameIndustry.com)
Game Audio Salaries

- US video game industry salary 2010 average was $80,817 USD (~R$126,317)

- Sound designers & composers earned an average of $68,088 (~R$106,421)

- For indie developers, contractors in general earn $55,493 (~R$86,735)

Game Developer Magazine 10th Annual Salary Survey
Brazil Online

- Brazil is the 8th largest global internet audience
- Since 2002 it has doubled every 3 years

![Chart showing internet users and total online hours per visitor for Brazil and other countries.](http://www.ComScore.com)
Brazil Gaming Prospects

- Brazil buys > 50% of Latin American virtual goods market - $336M USD
- 90% of Zynga's revenue is in virtual goods
- Zynga's valuation is $10B vs. EA's $7B (May 2011)
- Online gaming in Brazil could be very lucrative

http://www.SuperDataResearch.com
Games vs. Film

• Games:
  • Interactive: Hard to predict what will happen
  • Technology: Changes frequently + code
  • Timescale: Time experience is often longer
  • Creativity: 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 & be broken the next
Organization

- What are your basic requirements? Over-prepare for the worst
- What tools, software & resources are needed? Work closely 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
Samples

- Often we begin by replacing placeholders
- I'll often combine samples with synthesis to give a cleaner sound with full harmonics
- Samples are great for gameplay when we know what will happen during length of the sample
- Do we need to fill the entire memory or does quality win over quantity?
Synthesis

- In Retro City Rampage 95% of sounds are synthesized from pulse, triangle and noise waves.
- Mod tracker allows detailed control and can mix synthesis and samples but is also tricky to learn.
- OpenModPlug Tracker is free.
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
Reactive 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?
A Job In Game Audio?

A “typical” game audio home studio
How Do I Get Into Games?

- Research game audio and student sites
- Participate in forums such as SoundDesign on Yahoo
- Play games and critique the audio
- Learn tools like Wwise and Fmod
- Play with languages like Pure Data or Max/MSP
- Start making mods & games: www.moddb.com
ModDB

 Mods are coming to Minecraft
 Official plan for mods just announced.

http://www.ModDB.com
Game Career Guide

http://www.GameCareerGuide.com
“The School of Video Game Audio was created by industry veterans Gordon Durity and Leonard J. Paul who have a combined history of over 30 years in the industry and over 20 years teaching audio for games. Their combined experience and dedication to the art and science of game audio has given their students the competitive edge in the industry. Their goal in creating the school is to raise the level of game audio on a world-wide scale by making it accessible and affordable to everyone who strives for excellence in this exciting field of development”
Indie Games –> Make your Own

- 2011 – *Retro City Rampage* – (Vblank Ent.)
Questions?

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