

9. Music for Games

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Overview

- Goals for Game Scores
- Techniques from Linear Media
- Scoring Non-Linear Games
- Does MIDI have a future in games?
- Q & A

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Goals for Game Scores

- Similarities to traditional media
 - Emotional connection/cues
 - Provide context for environment
- Unique game aspects
 - Engage for much longer experience
 - Music as a game play element

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Techniques from Linear Media

- Spotting a game
 - Scoring timings vs. mood
 - Cutsscenes vs. gameplay
 - More on "music briefs" in a moment
- Using multichannel
 - 5.1/4.0 recordings

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Where Games Differ from Linear Scoring

- Undefined/unpredictable timings
- Game duration expectations
- Interactive, not passive
 - Voice
 - Multiplayer
- Technical considerations
 - Disc bandwidth/memory
 - Implementation needs

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Addressing Game Needs Through Score

- Have the conversation with:
 - Game designer / producer
 - Game programmer
- Score as a gameplay device
- Keeping score 'appropriate'
 - Variations
 - Interactivity
- Score vs. ambience
 - Score fatigue / "Silence is golden"

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The Production Process

- Budgeting
 - Guides quantity, quality
- Spotting
 - Goals and uses for music
 - Defining entrances, exits
 - Events / triggers
 - Game state
 - Timing information (time outs)
- Defining delivery mechanisms
 - Linear or interactive
 - Live orchestra, synthesized, or mixed

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The Production Process (Cont'd)

- Composition/orchestration
- Music contracting
 - Pre-records (synth, soloists, etc.)
 - Recording session(s)
 - Multi-tracking
 - Mixing session(s)
 - Sweetening, mastering
- Game integration
- In-game tweaking (mixing, transitions, etc.)

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Linear Music in Games

- Play/Stop of linear tracks appropriate in some scenarios
 - CD Player/Radio/Jukebox
 - Licensed music
 - Personalization
 - Cutsscenes, scripted game events
- Less desired uses
 - Conflict with desired emotional level
 - Wall-to-wall use (in some genres)

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Fitting Linear Score / Ambience Into a Non-Linear Game

- Interesting loops are interesting – once
- Boring loops are boring – forever

"If something is boring after two minutes, try it for four. If still boring, then eight. Then sixteen. Then thirty-two. Eventually one discovers that it is not boring at all."
-John Cage

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The Origins of Interactive Scoring

- 'Scripted' live events
 - Opera
 - Live TV (Oscars/Emmys?)
- Early Game Interactivity
 - Tempo modification
 - Basic music state transitions
 - End of level, failed mission

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Interactivity and Game Scores

- Too Little?
 - Ignored, actively muted/replaced
 - Can breed repetition
- Too Much?
 - Differences from film score 'interactivity' with visuals (passive)
 - Risk of creating music mini-games
 - Risk of spoiling surprises

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Keeping It Fresh: Variations

- Loops: Rhythmic/melodic variation
 - Seamless stitching
 - Crossfading
- Dynamic mixing: Coloration/density
 - Blending ambience and score
 - Score layering
 - Streaming considerations



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Keeping It Appropriate: Dynamic Score

- Intensity/emotional levels
 - Driven by game state
 - May be one or more dimensional
- Scripted cue triggers
 - Ambience→Score for significant events
 - Score→Ambience upon event completion or timeout
- Branching music
 - Based on randomization or game events

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Keeping It Smooth: Transitions

- Getting there is half the challenge
 - Increasing compositional burden
- Defining:
 - When can the music change?
 - How does the music transition?
 - Where does the music go?
- Accuracy can be limited by engine
 - Sample accuracy vs. time resolution
 - Streaming vs. in-memory
 - Compression techniques and seeking

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Logistics of Interactivity

- Creative challenges
 - Non-linear composition
 - Maintaining musical continuity
- Matrix of transitions
 - One standardized transition style
 - One per piece
 - One per marker
 - One per source/destination pair

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Implementing Interactive Scores

- Prototype at each stage
 - Placeholder compositions
 - Synthesized renderings
- Recording live for interactivity
 - Capturing dry or with reverberation
 - Start/stop vs. offline music editing
 - Does everything really line up on barlines?
 - Isolation recordings vs. orchestral continuity
 - Accuracy (click tracks, tuning, etc.) vs. musicality
- Testing "on site" for potential issues
 - Need for dynamic auditioning tools

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Delivering Interactive Scores

- Communicating interactivity
 - For developers
 - For game designers and testers
- What's the format?
 - Completed tracks
 - Stems
 - MIDI + instrument samples
- Can it scale?
 - Bandwidth restrictions
 - Memory restrictions
 - Disc size restrictions

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Now does it work?

- Programming challenges
 - Need ability to audition outside of game (tool, engine, etc.)
 - Visualization for what's happening
 - Try to "break" the music
- Test challenges
 - Explaining interactive scores to testers
 - "Sounds good" vs. "Correct"
- The game audio conundrum

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MIDI and Game Music

- In many ways, ideal
 - Just-in-time note triggering
 - Tempo manipulation/beat 'detection'
 - Actual music data is small
- In many ways, not so much
 - Sample quality, no mastering/FX
 - Memory/bandwidth considerations
 - Competition with audience expectations

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Don't Count MIDI Out Yet...

- Scores for downloadable games
- Portable devices
- Specialty scenarios
 - "Legacy" or resource-constrained titles and platforms
 - User Mods / Customization
 - Online jam sessions
- Technical advances
 - DSP and CPU processing
 - Disc bandwidth competition

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Recommended Exercises

- Music Editing
 - Take an existing piece and snip it
 - Loops, variations, resequencing, etc.
 - How smooth can you go?
- Non-linear composition
 - Pick a game genre
 - Define goals for your score – game states to cover
 - Write several elements of it
 - Mock it up to demonstrate playback – either in a tool or a linear editor
- Learn non-linear music playback tools

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Wrap Up

- Balance
 - Interactivity versus continuity
 - Specificity versus personalization
- Plan out and prototype
 - Compositional concepts
 - Programmatic/technical concepts

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Q & A

- Questions, comments?

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