

**North American Conference on Video Game Music  
Conference Abstracts**

**Session 1**

*From the Concert Hall to the Console: The 8-bit Translation of BWV 565*  
Dana Plank-Blasko (The Ohio State University)

J.S. Bach's Toccata and Fugue in D minor, BWV 565 has obtained many powerful associations in the past century, ranging from didactic and pious to the grotesque. The work became particularly associated with the gothic horror trope of the eccentric loner driven to madness and evil, in numerous Hollywood horror films of the 1930s. In the 1980s, BWV 565 experienced resurgence in the popular culture imagination, appearing in seven video games from 1982-1990. The signifying function of BWV 565 in these disparate ludic contexts ranges from the evocation of the gothic aesthetic or religious awe to mere sonic wallpaper to the adventure at hand. In exploring the use of BWV 565 in *Captain Comic* (1989), *Battle of Olympus*, and *Castlevania* (1986), among others, it becomes apparent that the work's meaning and significance, rather than representing a fixed form, is fluid and mercurial. More importantly, this shifting meaning is not merely produced by the audiovisual context, but also in how the work is translated and encoded into the PSG chip. Ranging from truncated albeit faithful recreations, to hastily condensed versions riddled with chromatic and contrapuntal inaccuracies, to momentary quotation as homage integrated into newly composed music, the 8-bit translations of BWV 565 are diverse. The use of the BWV 565 allows instant access to a bank of culturally conferred extra-musical meanings that can be powerful communicative devices for a game designer, while still allowing room for artistic license in forever creating the work again anew via quotation, synthesis, and juxtaposition.

*Recomposition of Chopin and Narrative Design in Double Fine's Stacking*  
William R. Ayers (University of Cincinnati College-Conservatory of Music)

Narrative design in video games has received deserved attention in recent years. Studies by Gibbons (2011) and Whalen (2004) have even given credence to the effect of music on the narrative trajectory of games. These scholars also recognize that the use of preexisting (often rearranged) music can alter a game's narrative design philosophy. The soundtrack for *Stacking*, a recent game by Double Fine Productions, is composed almost entirely of rearranged music from the eighteenth and nineteenth centuries. The recomposed works align with the dramatic events in the cutscenes of the game, but these alterations to familiar passages also impact the underlying narrative design. The works used in cutscenes are recomposed in such a way that they redirect the narrative focus. In this presentation I will use the narrative theories of Kofi Agawu, specifically his notion of locational functions (beginnings, middles, and endings), to examine the effects of recomposition on the narrative philosophy of *Stacking*. Peter McConnell and Brian Min, the game's lead composer and sound designer, reimagine the works of Chopin by altering the locational functions of certain passages (exchanging beginnings and endings). Instead of drawing attention to the events being dramatized in the cutscene, the music directs focus toward segments of gameplay. Many of the cutscenes end with the beginning of a piece, leading forward to the following section of gameplay. This compositional philosophy is used throughout the game and influences the narrative focus of the game's cutscenes.

*Classical/Klassical: Music and Duality in Catherine (2011)*  
William Gibbons (Texas Christian University)

Vincent, the responsibility-dodging, thirtysomething protagonist of the video game *Catherine* (Atlus, 2011), finds himself trapped between worlds, both literally and figuratively. During the day he careens between personal crises: his long-term girlfriend Katherine is pressuring him to get a good job, get married, and raise kids. At the same time, he meets the young and seductive Catherine, his ideal low-pressure partner. When Vincent sleeps, however, he is transported to another world entirely—a nightmarish yet disturbingly familiar dreamscape where his waking anxieties manifest as grotesque monsters and he must solve puzzles to fight for his very survival. This duality—Catherine vs. Katherine, Day vs. Night—carries over into composer Shoji Meguro's soundtrack. While Vincent's daytime exploits are underscored for the most part by unassuming music in a light jazz idiom, the soundscape that accompanies these nightly sojourns consists of electronic remixes of "Top-100" classical music: a Bach fugue, a portion of Mussorgsky's *Pictures at an Exhibition*, a movement of Beethoven's Fifth Symphony, Chopin's "Revolutionary" Etude, and so on. In this paper I argue that the classical music used throughout *Catherine* aurally reflects the game's central themes: the juxtaposition of the familiar and the unknown; the comfortable and the frightening; and, more generally, the postmodern play of "high" and "low" art. *Catherine* also serves as a case study for the complex use of classical music in postmillennial media, and as an exemplar of recent trends of "remixing" classical music in video games.

## Session 2

### *There's Always a Lighthouse: Commentary and Foreshadowing in the Diegetic Music of Bioshock Infinite* Enoch Jacobus (Berea, KY)

William Gibbons has already highlighted the subtextual relation of popular music to its contemporaneous setting in *Bioshock* (Game Studies 2011). Similar musical “Easter eggs” hide in plain sight throughout Bioshock Infinite with the significant difference that not all originate from the time in which the game is set. The introduction of anachronistic music, used diegetically, introduces songs by Cyndi Lauper, the Beach Boys, and others, re-dressed in turn-of-the-century garb. As in the earlier incarnation of *Bioshock*, these songs play a dual role as both an immersive element tying the game world to America circa 1912 and as a commentary, often ironic, on the game world events. Characters within the game are ignorant of this commentary, but we as players “from the future” can understand it all too well. Perhaps most significant is that the songs, juxtaposed as they are with the game environment, take on a different meaning and simultaneously change the meaning of the environment they fill. This discussion will examine the diegetic use of some of the real-world songs used in Infinite, with special attention to their narrative role and cultural implications. Whereas the scope of what could be said on this topic, and the songs that could be included, far exceeds the limitations of this exploration, I trust it will serve to perpetuate the discussion.

### *Breaking the Circle: Analyzing the Narrative Function of Music Manipulation in Bioshock Infinite* Sarah Pozderac-Chenevey (University of Cincinnati College Conservatory of Music)

Columbia, the primary site of *Bioshock Infinite* (2013), features a startling array of diegetic music. It is to the sound of congregants singing that Booker DeWitt, the game’s protagonist, is “baptized” into the floating city, and as the game progresses, he and Elizabeth, the woman he intends to rescue, encounter a significant amount of both “live” and “recorded” music in the city. At first, the musical hints that all is not well in Columbia are subtle, but they soon become obvious: hearing “Girls Just Want to Have Fun” on a 1912 beach in a period-appropriate style is surprising and unmistakable. Just as this and other anachronistic works hint at the temporal inconsistencies of Columbia, Frederic Chopin’s Nocturne in E-Flat Major, Op. 9, no. 2, highlights the moral conflict undergirding the supposedly utopian society. The capitalist baron Fink plays the nocturne, a piece which features rubato as an essential stylistic trait, as work music throughout Finkton—the unnatural rendition of Chopin’s music, accompanied by the image of workers scrubbing decks in perfect unison parallels the way Columbia’s social and economic system dehumanizes the African-American populace it keeps in near-slavery. To the knowledgeable gamer, the intent to show the inherent immorality of such a system is aurally unmistakable.

### *Garry Schyman’s Music for Destroy All Humans! (2005) and the Hybridity of Cinema and Video Game Scoring* Neil Lerner (Davidson College)

One of the first composers to have written a video game score that utilized an organic orchestra (*Voyeur*, 1993), Garry Schyman has positioned himself as one of the leading composers of video game music in the early twenty-first century. His original scores for the *Bioshock* franchise—which deployed the musical language of concert hall modernism—have garnered high accolades from critics as well as fans. The first major game he scored, *Destroy All Humans!* (2005), is a satirical reworking of the familiar tropes of 1950s science fiction cinema. In this third-person shooter the player controls an extraterrestrial invader named Crypto who seeks to conquer Earth for the Furon empire, and in the course of his terrestrial activities he gets to pilot a flying saucer, subject helpless humans to anal probes, destroy countless individuals and buildings, and telepathically read the thoughts of a U.S. citizenry obsessed with the anxieties and banalities of the 1950s. In addition to a recurring Furon theme that musically accompanies the loading of each level, Schyman also composed cues for each of the three states (disguised, undisguised, and hunted) Crypto could find himself in the game’s five locations. Schyman modeled much of his score on Bernard Herrmann’s groundbreaking 1951 score for *The Day the Earth Stood Still*, the film score that introduced the eerie timbre of the theremin to the genre of science fiction. A close analysis of the scores to *The Day the Earth Stood Still* and *Destroy All Humans!* reveals both the ways that Schyman utilized elements of Herrmann’s distinctive style while also showing how the particular requirements of a dynamic video game score led him to different methods than Herrmann. For instance, Schyman explained in a 2005 interview that he “avoided catching everything as you would in a film score” (thereby contrasting with Herrmann’s score for *The Day the Earth Stood Still*, which notably caught things like an alien robot’s visor raising and lowering). Schyman’s decision to write through-composed cues instead of layering loops marks another important way that he adopts an aesthetic more familiar to cinema than video games; in a musical language that derives heavily from film music (and a specific moment in the genre of science fiction music), the implementation of Schyman’s score demonstrates a cinema-derived style, made dynamic, that would become normative for later video game scores.

### Session 3

*Audio in Competitive “eSports” Video Games*  
Ryan Thompson (University of Minnesota)

In competitive video games with multiple elements for players to process and track throughout the course of a high-stress play session, aural cues can often cut through an otherwise busy gaming environment, clearly communicating vital points of data. These audio cues, found in both sound effects and music, are the focus of this essay, which makes a case study of the popular League of Legends, developed by Riot Games. For the purposes of this study, League of Legends serves as an exemplar of the MOBA (multiplayer online battle arena) genre, and information culled from analysis of the game’s audio is applicable to a wide range of competitive games.

As new game types and new playable characters have been introduced since League of Legends’ release in 2009, music has played an increasingly large role for both the game’s narrative and its gameplay, often working at the convergence of the two. I have been fortunate to be in contact with members of the audio team at Riot Games, who have actively been experimenting with incorporating more communicative audio (a term put forth by Karen Collins and others) into the game for its fourth competitive season beginning in late 2013. Using a combination of analysis and interview materials, this essay hopes to communicate how the addition of certain musical elements removed from visual cues have the potential to significantly change the way both League of Legends and similar games are played.

*Teaching Music Appreciation Through the Lens of Video Game Music: A Retrospect*  
Matthew Thompson (University of Michigan)

Although game music study is a relatively new field, the study of video game music in pedagogic classroom application is even more unexplored. This fall, I’m currently piloting a course on video game music for non-music majors. The course is, in essence, a music appreciation class through the lens of video game music and has attracted significant student, staff, and faculty interest. Since my course is likely the first of its kind, this paper offers a retrospect on teaching music appreciation through game music. Questions explored include: What are benefits of teaching music appreciation through video game music versus the traditional classical or popular music focuses? How might such a course be structured? What are inherent challenges with an introductory level game music course whose core make-up is the non-music major? How does video game music resonate with the contemporary student?

An introductory game music course might easily boast both traditional music appreciation focuses like history, aural skills, and analysis, as well as those perhaps less common: recording, covering, mixing, audio jobs, and workflow. Interactive audio and implementation discussions provide highly intellectual fodder and technical insight. While the exact results of this project will come more clearly into focus as the semester (and course) continues, already evident are numerous advantages that arise simply by the nature of game music. For instance, the -- typically disparaged -- repetitive and concise nature of game music makes discussions of its musical form simple, in part because student gamers are already so familiar with the music! This paper hopes that sharing firsthand experience of teaching with video game music might encourage others to explore pedagogical applications of game music in the classroom.

*Variations on a Theme by a Rogue A.I.*  
Steven B. Reale (Youngstown State University)

When Valve released its “Orange Box” collection in 2007, fans had good reason to have high expectations for the quality of the puzzles in the included game *Portal*. More difficult to anticipate was that *Portal* would introduce one of the most beloved villains in gaming history: the sociopathic, homicidal artificial intelligence named GLaDOS who takes delight in administering potentially deadly scientific experiments on humans in a facility called “Aperture Science.” The game’s 2011 sequel spent significant time developing the character of GLaDOS, in particular, her rather grisly origins. The game’s second act places the protagonist, Chell, in the oldest areas of the Aperture Science complex, where voice recordings of its founder, Cave Johnson, still play. Through these recordings, we learn Aperture Science’s decline and Cave Johnson’s increasingly desperate measures to keep the facility open, which culminated in having the personality of his assistant, Caroline, forcibly uploaded to the facility’s mainframe.

The score was composed by Valve’s in-house composer Mike Morasky, and much of the music that makes up the game’s soundtrack features simple arpeggiated chord progressions that have the character of a procedurally-generated compositional process, which carries the diegetic suggestion that it was composed by some kind of artificial

intelligence. But whereas algorithmic music ought to be rational and predictable, the score to *Portal 2* is riddled with irregular groupings, metrical changes, and subdivisions. Perhaps the music was composed by a digital brain; but if so, it was surely an unpredictable and irrational—perhaps murderous?—A.I.

#### Session 4

*Analyzing Modular Smoothness in Video Game Music*  
Elizabeth Medina-Gray (Yale University)

The music in video games is made of distinct modules, and these modules combine during gameplay to yield unique soundtracks that match each player's individualized experience with a game and its virtual world. The smoothness—and alternately, disjunction—that results as modules combine is a critical aspect of this dynamic music. On the one hand, smoothness—two modules fitting well together—is often lauded by game composers as an aesthetic goal (Marks 2009, 243; Childs 2007, 152; Sheffield 2008, 5), and it may contribute to the player's basic immersion in the game-playing experience (Collins 2008, 145). Disjunction, on the other hand, may serve important gameplay functions; it may, for example, signal a change in the virtual environment (Hoffert 2007, 35). This aspect of game music, however—with the exception of an informal treatment in Hoffert 2007—remains largely untheorized and unexplored. The current paper introduces a comprehensive method for analyzing smoothness and disjunction at the real-time seams between modules, in both sequential and simultaneous modular combinations. This new method focuses on several aspects of the music and its execution that may produce smoothness (or disjunction), namely meter, timbre, pitch, volume, and abruptness. Moreover, this method incorporates probability calculations in order to treat every possible real-time gameplay soundtrack equally. After setting up the basic method—and highlighting its benefits over the treatment in Hoffert 2007—the current paper examines music from *The Legend of Zelda: The Wind Waker* (2003) to demonstrate some significant results from this new approach.

*Mapping Sound: Play, Performance, and Analysis in Proteus*  
William O'Hara (Harvard University)

Each playthrough of Ed Key and David Kanaga's *Proteus* (2013) presents players with a new, randomly generated island to explore. This unstructured exploration is accompanied by a procedurally-generated ambient soundtrack that incorporates both harmonic textures and melodic motives, and abstract musical representations of environmental sounds. In the absence of clearly defined goals—except to progress through four distinct “seasons” of the game—the player's relationship to the soundtrack becomes a core gameplay element, and a playthrough of *Proteus* becomes, among other things, a kind of improvised performance art.

Viewed from this perspective, *Proteus*' combination of free exploration and chance strongly resembles both the “mobile form” works of Stockhausen and Ligeti—which present the performer with a series of musical fragments to be played in any order, and whose analytical challenges are well documented—and to eighteenth-century musical “dice games,” which allowed amateurs to compose simple pieces based on predetermined schemata. *Proteus* further complicates analysis by concealing the mechanisms that produce particular musical fragments, and eliding the roles of listener and player/performer. Drawing on debates between narrative- and gameplay-oriented approaches to game studies (Bogost 2006), and on recent histories of the visual and spatial representation of music (Bonds 2010, Watkins 2011), this presentation examines the tensions inherent in the complementary actions of playing/performing *Proteus*, and listening to/analysing it, and argues that the game challenges the distinctions between creator, performer, and observer by vividly embodying the most deeply ingrained metaphors of music analysis.

*An Exploration of Zelda's Lullaby*  
Nick Exler (Eastman School of Music)

Videogame music presents a genre-specific problem: how can a composer avoid annoying repetition within a game that requires music to loop infinitely until another game event occurs? Koji Kondo's composition *Zelda's Lullaby*, written for *The Legend of Zelda* series, solves this problem: by avoiding tonic throughout the piece and creating relationships across formal sections, the repetitions are harmonically motivated. Analysis reveals not only interesting motivic relationships between characters, but also explicates Koji Kondo's colorful and distinctive tonal language. While some online publications exist, there are few rigorous musical analyses of Kondo's output.

*Zelda's Lullaby* was composed for *The Legend of Zelda: A Link to the Past* (1991), and it has been used in every *Zelda* since then, most prominently in *The Legend of Zelda: Ocarina of Time* (1998). In the piece, Kondo subverts cadences and dodges every possible opportunity for a tonic resolution. Schenkerian analysis further illuminates the issue: Koji

Kondo sets up fragments of potential *Urbini* that resolve deceptively into each other as the music loops. Instrumentation, formal structure, and harmony round out the analysis. The soundtrack foreshadows a hidden motivic relationship between *Zelda's Lullaby* and *Sheik's Theme* that illuminates a character relationship revealed in the final moments of the game. The paper concludes with speculation on narrative and structural issues specific to the *Zelda* series and generally applicable to videogame music.

## Session 5

### *Chiptunes, Nostalgia, and the Aural History of Gaming* Christopher Russell (Northwestern University)

In 2003, Malcolm McLaren breathlessly declared the arrival of a “revolution” in music production. Describing “chiptunes”—sound synthesis using obsolete console sound chips—as the “last repository of the marvelous,” McLaren lauds the transformative potential of a music-making based on rehabilitated technologies rather than slick corporate software packages. Drawing on familiar rhetoric of a countercultural anti-capitalism, chiptunes are “folk music for a digital age,” an authentic expression outside of the traditional structures of mainstream music. Part technostalgia and part “hacking culture,” McLaren describes chiptunes as a cure for the homogenized musical present. Though McLaren's purple prose is more than a little hard to swallow, his descriptions of chiptunes begin to invest video game sound technologies with new sets of meaning.

As Lisa Gitelman points out, obsolete media technologies do not cease to be culturally legible - instead, their meanings continue to accrue and transform. In this paper, I consider how chiptunes and musicians reinterpret “8-bit” game music technologies, articulating certain understandings of gaming’s past. Fueled in part by a retro nostalgia, chiptune musicians use NES and Gameboy components for multiple reasons. Not only are these technologies cheap and readily available synthesizers, but they are also already evocative objects - connected to childhood memories of games and Saturday afternoons. However, as Stuart Tannock argues, nostalgia is not necessarily a backwards-looking longing, but instead can be a productive force, reconciling past and present. In this sense, chiptunes produce narratives of technologies and gaming culture, retelling gaming history through music.

### *Hard-boiled music: The case of L.A. Noire* Iain Hart (Sydney Conservatorium)

A lot can change in six decades. *L.A. Noire* (Rockstar Games, 2011) is set in Los Angeles in 1947. The game is ostensibly an interactive *film noir*, or at least a tribute to the *noir* aesthetic. But the style signified by the term ‘*film noir*’ has developed over time, perhaps as much as the city of Los Angeles itself, and *L.A. Noire's* “*noir*” is noticeably different to the style at its 1940s inception. To a player familiar with classic *noir* the promise of becoming a modern-day Marlowe is on shaky ground.

Comparing *L.A. Noire* to notable examples from film, television and literature, this paper discusses the game's explicit attempt to be an authentic *jeu noir* and its musical accompaniment to crime and justice in 1940s Los Angeles. By exploring the origins of the game's musical aesthetic, this paper determines *L.A. Noire's* relationship with the *noir* tradition. Although the game's strong links to late neo-*noir* film are unsurprising, *L.A. Noire's* nexus of period style and open-form gameplay connects the player to *film noir's* earliest influences, allowing exploration of both a constructed history and the notion of ‘*noir*’ itself. Accordingly, *L.A. Noire* should be considered as a progression, rather than a derivation, of the *noir* tradition.

### *When is a Leitmotif not a Leitmotif?: Theme, Structure, and Narrative in the Soundtrack for Final Fantasy Tactics* Ryan Ross (Mississippi State University)

The unique format of video games, and role playing games (RPGs) in particular, has afforded composers special opportunities and freedoms. Lengthy game completion times, and an according need for much contrasting, immersive music, have allowed the inclusion, development, and variation of musical themes far beyond the capacities of most feature films. However, such soundtracks present new analytical challenges. This is especially true of the music for *Final Fantasy Tactics* (Sony PlayStation, 1997), once reviewed as among the greatest video game soundtracks ever composed. Scored for synthesized orchestra, this sweeping, Romantic music ideally complements the “high fantasy” story of a young protagonist questing to save his land from a mysterious evil driving rampant corruption and war.

An interesting problem in the *Final Fantasy Tactics* score concerns leitmotifs. The official soundtrack released in the West comprises two compact discs. Each track contains a particular musical number and comes with a title signifying its extra-musical association. However, multiple themes cycle repeatedly through the game’s sound world,

often in varied or developed forms and in contexts quite removed from both their descriptions on the CD track titles and from their initial appearances in the game itself. This prompts the following questions: when and to what extent does the score of *Final Fantasy Tactics* serve its narrative, and when does it operate in the interests of primarily *musical* structure? This paper's analysis, incorporating relevant scholarship and insights offered by primary composer Hitoshi Sakimoto, addresses these questions.

## Session 6

### *Playing with Music: Building Soundcastles in the Sandbox*

Jesse Kinne (University of Cincinnati College-Conservatory of Music)

The sandbox genre is defined by built-in game mechanics which enable and encourage free experimentation by players; recently, this has extended to include the musical component of the gaming experience. Re-Logic's *Terraria* presents a good case study for understanding how the score itself can be treated as a ludo mechanic, evolving the metagaming and emergent gameplay fundamental to *Terraria* and its community into a novel experience. *Terraria* is unique in that players are intended to customize the interaction between score and ludo elements. Players acquire the ability to record the soundtrack and relocate it from one game area to another. This is fundamentally different than, for example, changing the radio station in *Grand Theft Auto*, wherein the player's pairing of in-game music to setting is made somewhat arbitrary by the lack of a default pairing between songs and settings, meaning that in *GTA* players cannot systematically manipulate significations of specific other in-game experiences.

First, I examine the historical trends and circumstances which led to the reimagining of the role of the soundtrack as implemented in *Terraria*. I next determine the role of specific ludo components in analyzing the score, and assess the role of player input in creating the "manuscript" version. Finally, I recommend that the scholarly community actively pursue communication with developers regarding the technical relationships between ludo and score elements in future games, so that analysis is not limited by a specific scholar's experience of a subset of all possible ludo-score relationships in any given game.

### *Interactive Music in Video Games, and "Taking Advantage of the Medium"*

Peter Shultz (University of Chicago)

Over the past two decades, composers, journalists, and fans of game music have built a trope around interactive (adaptive, generative) music: in order to take advantage of the video-game medium, composers should script dynamic soundtracks that change smoothly in response to game states and player action, instead of composing simple loops, which are static, clunky, and repetitive. This trope locates loops in the past and interactive music in the future, valorizing the later over the former. But it rests on a few shaky aesthetic assumptions: a) that the primary function of game music is to describe, characterize, or enrich action; b) that players should be—and ordinarily are—unaware of its operation; and c) that there is indeed such a thing as "non-interactive" music. This paper questions these assumptions, drawing on a framework of embodied musical cognition (Leman, Godøy) and communication (Zbikowski, Tomasello). It proposes that music in games may not only be descriptive or elaborative, as (arguably) in films, but often also imperative, as in social dance. By insisting that music adapt to fit player actions and game state, this trope overlooks the meanings that may arise when it resists. Examples come from *Super Mario Bros.* (1989), *The Chaos Engine* (1993), *Siren* (2003), *de Blob* (2008), *Spore* (2008), and *All I Want Is for All My Friends to Become Insanely Powerful* (2013).

### *A study of the iMUSE transition matrix music system in the Woodtick location of Monkey Island 2: LeChuck's Revenge*

Eugene Belianski (York University)

Released in 1991, the graphic third-person adventure game *Monkey Island 2: LeChuck's Revenge* was the first video game to feature a transition matrix (*aka* branching state-based) music system, allowing for seamless on-the-fly modifications of the music to accompany a player's actions. The soundscape of the town of Woodtick at the game's start -- a showpiece for the iMUSE (Interactive Music Streaming Engine) system coded by Michael Land and Peter McConnell and patented by them in 1994 -- features six location-specific musical tracks that are connected by a seventh that acts as a bridge, both musically and in the gameplay. Each of the tracks features 10–11 player-triggered transitions and optional instrumental lines whose audibility depends upon the narrative progression of the game. For the present study, the location music of Woodtick and all the possible transitions for each track have been transcribed into standard Western musical notation, allowing an analysis to be performed of the four main elements of each—melody, chords, bass and percussion—and of their relation to each other. It is hoped that this work will help to de-mystify the use of the transition matrix for future game composers, as well as provide a historical record of this important early milestone in the development of video game music.