

9 | Music Games

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Within the field of game studies, much ink has been spilt in the quest to define and classify games based on their genre, that is, to determine in which category they belong based on the type of interaction each game affords. Some games lie clearly within an established genre; for example, it is rather difficult to mistake a racing game for a first-person shooter. Other games, however, can fall outside the boundaries of any particular genre, or lie within the perimeters of several genres at once. Such is the case with music games. While some may argue that a game can be considered to be a music game only if its formal elements, such as theme, mechanics or objectives, *centre* on music, musicians, music making or another music-related activity, in practice the defining characteristics of a music game are much less clear – or rather, are much broader – than with other genres. Many game publishers, players, scholars and critics classify a game as musical simply because it features a particular genre of music in its soundtrack or musicians make appearances as playable characters, despite the fact that little-to-no musical activity is taking place within the game.

In this chapter, I outline a number of types of music games. I also discuss the various physical interfaces and controllers that facilitate musical interaction within games, and briefly highlight a number of cultural issues related to music video games. As a conclusion, I will suggest a model for categorizing music games based on the kind of musical engagement they provide.

Music Game (Sub)Genres

Rhythm Games

Rhythm games, or rhythm action games, are titles in which the core game mechanics require players to match their actions to a given rhythm or musical beat. The ways in which players interact with the game can vary widely, ranging from manually ‘playing’ the rhythm with an instrument-shaped controller, to dancing, to moving an in-game character to the beat

of a game's overworld music. Although proto-rhythm games have existed in some form since the 1970s, such as the handheld game *Simon* (1978), the genre became very successful in Japan during the late 1990s and early 2000s with titles such as *Beatmania* (1997), *Dance Dance Revolution* (1998) and *Taiko no Tatsujin* (2001). With *Guitar Hero* (2005), the genre came to the West and had its first worldwide smash hit. *Guitar Hero* achieved enormous commercial success in the mid-2000s before waning in popularity in the 2010s.¹

Peripheral-based Rhythm Games

Perhaps the most well-known of all types of rhythm games, peripheral-based rhythm games, are those in which the primary interactive mechanics rely on a physical controller (called peripheral because it is usually an extra, external component used to control the game console). While peripheral controllers can take any number of shapes, those that control rhythm games are often shaped like guitars, drums, microphones, turntables or other musical instruments or equipment.

Quest for Fame (1995) was one of the first music games to utilize a strum-able peripheral controller – a plastic wedge called a 'VPick'. After connecting its cord into the second PlayStation controller port, players held the VPick like a guitar pick, strumming anything they had available – a tennis racket, their own thigh, and so on – like they would a guitar. The actions would be registered as electrical impulses that registered as soundwaves within the game. Players would progress through the game's various levels depending on their success in matching their soundwaves with the soundwaves of the in-game band.

Games in the *Guitar Hero* and *Rock Band* series are almost certainly the most well-known peripheral-based rhythm games (and arguably the most well-known music video games). *Guitar Hero* features a guitar-shaped peripheral controller with coloured buttons along its fretboard. As coloured gems that correspond to the buttons on the controller (and ostensibly to notes in the song being performed) scroll down the screen, players must press the matching coloured buttons in time to the music. The original *Rock Band* (2007) combined a number of various plastic instrument controllers, such as a guitar, drum kit and microphone, to form a complete virtual band. Titles in the *Guitar Hero* and *Rock Band* series

¹ Mario Dozal, 'Consumerism Hero: The "Selling Out" of *Guitar Hero* and *Rock Band*', in *Music Video Games: Performance, Politics and Play*, ed. Michael Austin (New York: Bloomsbury, 2016), 127–52.

also allow players to play a wide variety of songs and genres of music through a large number of available expansion packs.

Non-Peripheral Rhythm Games

PaRappa the Rapper (1996), considered by many to be one of the first popular music games, was a rhythm game that used the PlayStation controller to accomplish the rhythm-matching tasks set forth in the game, rather than a specialized peripheral controller.² In-game characters would teach PaRappa, a rapping dog, how to rap, providing him with lyrics and corresponding PlayStation controller buttons. Players were judged on their ability to press the correct controller button in rhythm to the rap. Similar non-peripheral rhythm games include *Vib-Ribbon* (1999).

Other rhythm games aim for a middle ground between peripheral and non-peripheral rhythm games. These rely on players using physical gestures to respond to the musical rhythm. Games in this category include *Wii Music* (2008), which uses the Wii's motion controls so that players' movements are synchronized with the musical materials. *Rhythm Heaven/Rhythm Paradise* (2008) was released for the Nintendo DS, and to play the game's fifty rhythm mini-games, players held the DS like a book, tapping the touch screen with their thumbs or using the stylus to tap, flick or drag objects on the screen to the game's music.

Dance-based Rhythm Games

Dance-based rhythm games can also be subdivided into two categories. Corporeal dance-based rhythm games require players to use their bodies to dance, either by using dance pads on the floor, or dancing in the presence of sensors. Manual dance games achieve the required beat-matching through button-mashing that is synchronized with the dance moves of on-screen avatars using a traditional controller in the player's hands. These manual dance games include titles such as *Spice World* (1998) and *Space Channel 5* (1999).

Corporeal dance games were amongst the first rhythm games. *Dance Aerobics* (1987), called *Aerobics Studio* in Japan, utilized the Nintendo Entertainment System's Power Pad controller, a plastic floor-mat

² Andrew Webster, 'Roots of Rhythm: A Brief History of the Music Game Genre', *Ars Technica*, 3 March 2009, accessed 8 April 2020, <http://arstechnica.com/gaming/2009/03/ne-music-game-feature>.

controller activated when players stepped on red and blue circles, triggering the sensors imbedded inside. Players matched the motion of the 8-bit instructor, losing points for every misstep or rhythmic mistake. As players advanced through each class, the difficulty of matching the rhythmic movements of the instructor also increased. The 'Pad Antics Mode' of *Dance Aerobics* included a free-form musical mode called 'Tune Up' in which players could use the NES Power Pad to compose a melody, with each of the ten spots on the periphery of the Power Pad assigned a diatonic pitch; in 'Mat Melodies', players used these same spots to play tunes such as 'Twinkle, Twinkle Little Star' with their feet while following notes that appeared on a musical staff at the top of the screen. 'Ditto' mode featured a musical memory game similar to *Simon*.

Games in Konami's Bemani series include many of the best known in the rhythm games genre. The term 'Bemani' originated as a portmanteau in broken English of Konami's first rhythm game, *Beatmania*, and it stuck as a nickname for all music games produced by the publisher; the company even adopted the nickname as a brand name, replacing what was previously known as the Games & Music Division (GMD). *Dance Dance Revolution*, or *DDR* quickly became one of the most well-known games in this dance-based rhythm game genre. Usually located in public arcades, these games became spectacles as crowds would gather to watch players dance to match the speed and accuracy required to succeed within the game. *DDR* players stand on a special 3 x 3 square platform controller which features four buttons, each with arrows pointing forward, back, left or right. As arrows scroll upward from the bottom of the screen and pass over a stationary set of 'guide arrows', players must step on the corresponding arrow on the platform in rhythm with the game, and in doing so, they essentially dance to the music of the game.³

Although the first dance-based games required players to match dance steps alone, without regard to what they did with the rest of their body, motion-based games required players to involve their entire body. For instance, *Just Dance* (2009) is a dance-based rhythm game for the motion-controlled Wii console that requires players to match the full-body choreography that accompanies each song on the game's track list. As of the writing of this chapter in 2020, games were still being published in this incredibly popular series. When *Dance Central* (2010) was released for

³ Joanna Demers, 'Dancing Machines: "Dance Dance Revolution", Cybernetic Dance, and Musical Taste', *Popular Music* 25, no. 3 (2006): 401–14; Jacob Smith, 'I Can See Tomorrow in Your Dance: A Study of Dance Dance Revolution and Music Video Games', *Journal of Popular Music Studies* 16, no. 1 (2004): 58–84.

Microsoft Kinect, players of dance games were finally rid of the need to hold any controllers or to dance on a mat or pad controller; rather than simply stepping in a certain place at a certain time, or waving a controller in the air to the music, players were actually asked to dance, as the console's motion-tracking sensors were able to detect the players' motion and choreography, assessing their ability to match the positions of on-screen dancing avatars.⁴

Musical Rail-Shooter Games

Rail-shooter games are those in which a player moves on a fixed path (which could literally be the rail of a train or rollercoaster) and cannot control the path of the in-game character/avatar or vehicle throughout the course of the level. From this path, the player is required to perform specific tasks, usually to shoot enemies while speeding towards the finish line. In musical rail-shooters, a player scores points or proves to be more successful in completing the level if they shoot enemies or execute other tasks in rhythm with music. Amongst the first of this type of game was *Frequency* (2001), which asked players to slide along an octagonal track, hitting controller buttons in rhythm in order to activate gems that represented small chunks of music. Other musical rail-shooters include *Rez* (2001), *Amplitude* (2003) and *Audiosurf* (2008).

Sampling/Sequencing and Sandbox Games

Some music games provide players with the ability to create music of their own. These games often began as music notation software or sequencing software programmes that were first marketed as toys, rather than serious music-creation software, such as *Will Harvey's Music Construction Set* (1984), *C.P.U. Bach* (1994) and *Music* (1998). *Otocky* (1987) was designed as a music-themed side-scrolling shoot-'em-up in which players were able to fire their weapon in eight directions. Shots fired in each direction produced a different note, allowing players a small bit of freedom to compose music depending upon in which direction they shot. *Mario Paint* (1992) included an in-game tool that allowed players to compose music to accompany the artistic works they created within the game; this

⁴ Kiri Miller, 'Gaming the System: Gender Performance in Dance Central', *New Media and Society* 17, no. 5 (2015): 939–57 and Miller, *Playable Bodies: Dance Games and Intimate Media* (New York: Oxford University Press, 2017).

tool became so popular, it spurred on an online culture and spin-off software called *Mario Paint Composer* (Unfungames.com, 1992).⁵

Electroplankton (2005) was released for the Nintendo DS console and designed as a sequencing tool/game in which players interacted with ten species of plankton (represented as various shapes) through the use of the DS's microphone, stylus and touchscreen in the game's 'Performance Mode'. The species of a plankton indicated the action it performed in the game and the sound it produced. In 'Audience Mode', players could simply listen to music from the game. Despite its popularity, *Electroplankton* was not a successful music-creating platform due to its lack of a 'save' feature, which would have allowed players to keep a record of the music they created and share it.

KORG DS-10 (2008) was a fully fledged KORG synthesizer emulator designed to function like a physical synth in KORG's MS range, and was created for use on the Nintendo DS platform. Other iterations, such as *KORG DS-10 Plus* (2009) and *KORG iDS-10* (2015) were released for the Nintendo DSi and the iPhone, respectively. While it was released as synth emulator, *KORG DS-10* received positive reviews by game critics because it inspired playful exploration and music creation.⁶

Karaoke Music Games

Music games can also test a player's ability to perform using musical parameters beyond rhythm alone. Games such as *Karaoke Revolution* (2003) and others in the series, as well as those in the SingStar series (2004–2017) have similar game mechanics to rhythm games, but rather than requiring players to match a steady beat, these games require players to match pitch with their voices.

Def Jam Rapstar (2010), perhaps the most critically acclaimed hip-hop-themed karaoke game, included a microphone controller in which players would rap along to a popular track's music video (or a graphic visualization when no video was available), matching the words and rhythms of the original song's lyrics; in instances where singing was required, a player's ability to match pitch was also graded.

⁵ Dana Plank, 'Mario Paint Composer and Musical (Re)Play on YouTube', in *Music Video Games: Performance, Politics, and Play*, ed. Michael Austin (New York: Bloomsbury, 2016), 43–82.

⁶ James Mielke, 'Korg DS-10 Review', *Iup.com*, 2008, accessed 8 April 2020, <https://web.archive.org/web/20160617012539/http://www.iup.com/reviews/korg-ds-10>; Christopher Ewen, 'KORG DS-10 Review', *GameZone*, 2009, accessed 8 April 2020, <https://web.archive.org/web/20100225131407/http://nds.gamezone.com/gzreviews/r35919.htm>.

Mnemonic Music Games and Musical Puzzle Games

Many video games in this subgenre of music games have their roots in pre-digital games, and they rely on a player's ability to memorize a sequence of pitches or to recall information from their personal experience with music. *Simon*, considered by many to be the first electronic music game, tested a player's ability to recall a progressively complex sequence of tones and blinking lights by recreating the pattern using coloured buttons. Later games, such as *Loom* (1990) and *The Legend of Zelda: Ocarina of Time* (1998) relied, at least in part, on a similar game mechanic in which players needed to recall musical patterns in gameplay.

A variation on the 'name that tune' subgenre, *Musika* (2007) tapped into the library of song files players had loaded onto their iPod Touch. As they listen, players must quickly decide whether or not the letter slowly being uncovered on their screen appears in the title of that particular song. The faster they decide, the higher a player's potential score. *SongPop* (2012) affords players the chance to challenge one another to a race in naming the title or performer of popular tunes, albeit asynchronously, from a multiple-choice list.

Musician Video Games

The subgenre of what we might term 'musician video games' are those in which musicians (usually well-known musicians that perform in popular genres) or music industry insiders become heavily involved in the creation of a video game as a vehicle to promote themselves and their work beyond the video game itself. Games might even serve as the means of distribution for their music. Musicians or bands featured in a game may go on music-themed quests, perform at in-game concerts or do a myriad number of other things that have nothing at all to do with music. A wide variety of musicians are featured in this type of game, which include *Journey* (1983), *Frankie Goes to Hollywood* (1985), *Michael Jackson's Moonwalker* (1990), *Peter Gabriel: EVE* (1996) and *Devo Presents Adventures of the Smart Patrol* (1996).

Music Industry Games

In much the same way many musician video games allowed players to live the life of a rock star through an avatar, music industry-themed games put players in charge of musical empires, gamifying real-world, industry-related

issues and tasks, such as budgets, publicity and promotion, and music video production. Games in this genre include *Rock Star Ate My Hamster* (1988), *Make My Video* (1992), *Power Factory Featuring C+C Music Factory* (1992), *Virtual VCR: The Colors of Modern Rock* (1992), *Rock Manager* (2001), *Recordshop Tycoon* (2010) and *TastemakerX* (2011).

Edutainment Music Games and Musical Gamification

Educators and video game publishers have long been keen on using video games as both a source of entertainment and as a potential tool for teaching various subjects, including music. Early edutainment games, such as *Miracle Piano Teaching System* (1990), sought to make learning music fun by incorporating video-game-style gameplay on a video game console or personal computer. Such endeavours must deal with the issue of how to incorporate instruments into the learning process. Some opt for MIDI interfaces (like *Miracle Piano*), while others use replica instruments. *Power Gig: Rise of the SixString* (2010) included an instrument very similar to an authentic guitar. This peripheral controller was designed to help teach players how to play an actual guitar, although it was 2/3 the size of a standard guitar and of poor quality, and besides teaching players various simplified power chords, the game really did not teach players how to play the guitar, instead simply mimicking the mechanics of *Guitar Hero* and other similar games. *Power Gig* also included a set of sensors that monitored the action of players who were air-drumming along with songs in the game. The game that has arguably come the closest to teaching game players to become actual instrument players is Ubisoft's *Rocksmith* (2011) and its sequels, which allowed players to plug in an actual electric guitar of their own (or acoustic guitar with a pickup), via a USB-to-1/4 inch TRS cable, into their Xbox 360 console to be used as a game controller. The game's mechanics are similar to those of other guitar-themed rhythm games: players place their fingers in particular locations on a fretboard to match pitch and strum in rhythm when notes are supposed to occur, rather than mashing one of four coloured buttons as in *Guitar Hero*-style rhythm games. Similarly, and taking the concept a step further, *BandFuse: Rock Legends* (2013) allows up to four players to plug in real electric guitars, bass guitars and microphones as a means of interacting with the video game by playing real music. In fact, the 'legends' referenced in the game's title are rock legends who, with the aid of other virtual instructors, teach players how to play their hit songs through interactive video lessons in the game's 'Practice' and 'Shred-U' modes.

Music Game Technology

Peripheral Controllers

Music games can frequently rely on specialized controllers or other accessories to give players the sense that they are actually making music. As previously discussed, these controllers are called ‘peripheral’ because they are often additional controllers used to provide input for a particular music game, not the standard controllers with which most other games are played. While some peripheral controllers look and react much like real, functioning instruments and give players the haptic sensation of playing an actual instrument, others rely on standard console controllers or other forms of player input.

Guitars

Games such as those in the *Guitar Hero* and *Rock Band* series rely on now-iconic guitar-shaped controllers to help players simulate the strumming and fretwork of a real guitar during gameplay. While pressing coloured buttons on the fretboard that correspond to notes appearing on the screen, players must flick a strum bar (button) as the notes pass through the cursor or target area. Some guitar controllers also feature whammy bars for pitch bends, additional effect switches and buttons and additional fret buttons or pads. These controllers can often resemble popular models of electric guitars, as with the standard guitar controller for *Guitar Hero*, which resembles a Gibson SG.

Drums and Other Percussion

Taiko: Drum Master (2004), known as *Taiko no Tatsujin* in Japan, is an arcade game that features two Japanese Taiko drums mounted to the console, allowing for a two-player mode; the home version employs the Taiko Tapping Controller, or ‘TaTaCon’, which is a small mounted drum with two *bachi* (i.e., the sticks used to play a taiko drum). Games in the *Donkey Konga* series (2003–2005) and *Donkey Kong Jungle Beat* (2004) require a peripheral set of bongo drums, called DK Bongos, to play on the GameCube console for which the games were created. *Samba de Amigo* (1999) is an arcade game, later developed for the Dreamcast console, played with a pair of peripheral controllers fashioned after maracas. Players shake the maracas at various heights to the beat of the music, positioning their maracas as indicated by coloured dots on the screen.

Turntables

Some hip-hop-themed music games based on turntablism, such as *DJ Hero* (2009), use turntable peripheral controllers to simulate the actions of a disc jockey. These controllers usually include moveable turntables, crossfaders and additional buttons that control various parameters within the game.

Microphones

Karaoke music games usually require a microphone peripheral in order to play them, and these controllers are notorious for their incompatibility with other games or consoles. Games such as *Karaoke Revolution* initially included headset microphones, but later editions featured handheld models. *LIPS* (2008) featured a glowing microphone with light that pulsed to the music.

Mats, Pads and Platforms

These controllers are flat mats or pads, usually placed on the ground, and in most cases, players use their feet to activate various buttons embedded in the mat. Now somewhat standardized, these mats are customarily found as 3 x 3 square grids with directional arrows printed on each square. As was previously mentioned, players use the NES Power Pad to play *Dance Aerobics*; this controller is a soft pad made of vinyl or plastic that can easily be rolled up and stored. Arcade music games like *Dance Dance Revolution* use hard pads, often accompanied by a rail behind the player to give them something to grab for stability during especially difficult dance moves and to prevent them from falling over. Some of these games now use solid-state pads that utilize a proximity sensor to detect a player's movement, rather than relying on the pressure of the player's step to activate the controller. *DropMix* (2017) is a music-mixing game which combines the use of a tabletop game plastic platform, cards with embedded microchips and a companion smartphone application to allow players to create mashups of popular songs. Using near-field communication and a smartphone's Bluetooth capabilities, players lay the cards on particular spots on the game's platform. Each card is colour-coded to represent a particular musical element, such as a vocal or drum track, and depending upon its power level, it will mix in or overtake the current mix playing from the smartphone. Players can also share their mixes on social media through the app.

Motion Controls

Taiko Drum Master: Drum 'n' Fun (2018) was released for Nintendo Switch and relies on the player using the console's motion controls. Taking a controller in each hand, the player swings the handheld controllers downwards for red notes and diagonally for the blue notes that scroll across the screen. In *Fantasia: Music Evolved* (2014), based on the 'Sorcerer's Apprentice' section of the film *Fantasia* (1940), players act as virtual conductors, moving their arms to trace arrows in time with music to accomplish goals within the game. These motions are registered by the Xbox Kinect's motion sensors, allowing players to move freely without needing to touch a physical controller.

Wii Nunchuks

Using the Wii's nunchuk controllers, players of *Wii Music* (2008) could cordlessly conduct an orchestra or play a number of musical instruments. Likewise, players of *Ultimate Band* (2008) played notes on a virtual guitar by pressing various combinations of buttons on the Wii nunchuk while strumming up and down with the Wii remote.

Smartphone or Portable Listening Device Touchscreens

Some games mimic the mechanics of a peripheral-based rhythm game, but without the need for the instrument controller. *Phase: Your Music Is the Game* (2007) is a touchscreen-based rhythm game for the Apple iPod Touch; using the music found on the iPod in the player's song library as the playable soundtrack, players tap the iPod's touchscreen, rather than colour-coded buttons on a plastic guitar. Likewise, *Tap Tap Revenge* (2008) also utilized the iPhone's touchscreen to simulate controller-based rhythm games such as *Guitar Hero*.

Wider Culture and Music Games

When popular music is included within a music game, copyright and licensing can often be the source of controversy and fodder for lawsuits. In its early days, players of *Def Jam Rapstar* were able to record videos of themselves performing the hip-hop songs featured in the game using their consoles or computers, and could upload these videos to an online

community for recognition. In 2012, EMI and other rights holders brought up charges of copyright infringement, suing the game's makers for sampling large portions of hip-hop songs for which they owned the rights.⁷ Because the game was a karaoke-style music game and players could further distribute the copyrighted songs in question through the online community, EMI sought even more damages, and the online community was subsequently shut down.

At the height of their popularity, rhythm games such as *Rock Band* and *Guitar Hero* featured frequently in popular culture; for example, on Season 2, Episode 15 (2009) of the popular television show *The Big Bang Theory*, characters are shown playing the Red Hot Chili Peppers' song 'Under the Bridge' on *Rock Band*. As these games gained popularity in their heyday, naysayers and musical purists insisted that these games had no inherent musical value since they did not seem to encourage anyone to actually play an instrument. As such, the games were often parodied in popular culture: the premise of the *South Park* episode 'Guitar Queer-O' (Season 11, Episode 3, 2007) revolves around the supposition that games such as *Guitar Hero* require no real musical skills. But these kinds of music games have also enjoyed a surge in popularity in educational arenas, and have been successfully put to instructive uses in classrooms, albeit not as a replacement for instrumental tuition.⁸ There is some evidence to suggest that music games have actually inspired players to learn to play musical instruments outside of video games. In fact, seeing game characters play instruments in music games, such as the male protagonist Link who plays the ocarina in games in the Legend of Zelda series (Nintendo), has inspired male students to study the flute.⁹ Also related to music, gender and performance, Kiri Miller writes in *Playable Bodies* that music games such as *Dance Central* also provide opportunities for players who chose to play as avatars that do not correspond with their own gender expression to engage in 'generic, stylized gender performances that may pose little risk or challenge to their own identities',¹⁰ and in doing so, may denaturalize gender binaries.

⁷ Eriq Gardner, 'EMI Sues Over Def Jam Rapstar Video Game', *The Hollywood Reporter*, 2012, accessed 8 April 2020, www.hollywoodreporter.com/thr-esq/emi-def-jam-rapstar-video-game-lawsuit-305434.

⁸ See David Roesner, Anna Paisley and Gianna Cassidy, 'Guitar Heroes in the Classroom: The Creative Potential of Music Games', in *Music Video Games: Performance, Politics, and Play*, ed. Michael Austin (New York: Bloomsbury, 2016), 197–228.

⁹ Donald M. Taylor, 'Support Structures Contributing to Instrument Choice and Achievement Among Texas All-State Male Flutists', *Bulletin of the Council for Research in Music Education* 179 (2009): 45–60.

¹⁰ Miller, *Playable Bodies*, 84.

Types of Music Games

As we have seen, the term ‘music games’ covers a wide spectrum of games and subgenres. To conclude this chapter, I wish to introduce a model for categorization. While this type of analysis will never provide a definitive classification of music games, it does present a framework within which analysts can discuss what types of musical activities or opportunities a game affords its players and what types of musical play might be occurring within the course of a player’s interaction with a game.

One useful way to describe music games is by asking whether, and to what extent, the player’s musical engagement through the game is procedural (interacting with musical materials and procedures) and/or conceptual (explicitly themed around music-making contexts). These two aspects form a pair of axes which allow us to describe the musical experiences of games. It also allows us to recognize musical-interactive qualities of games that do not announce themselves as explicitly ‘music games’.

Procedural and Conceptual Musical Aspects of Games

The procedural rhetoric of a music game denotes the rules, mechanics and objectives within a game – or beyond it – that encourage, facilitate or require musical activity or interaction. For example, in the rhythm game *Guitar Hero*, players must perform a musical activity in order to succeed in the game; in this case, a player must press coloured buttons on the game’s peripheral guitar-shaped controller in time with the music, and with the notes that are scrolling by on the screen. Other games, such as *SongPop* require players to select a themed playlist, listen to music and race an opponent to select the name of the song or the artist performing the song they are hearing. It should be noted that the term *procedural* is used here to describe the elements of a game that facilitate a particular means or process of interaction, which is different from *procedural generation*, or a method of game design in which algorithms are used to automatically create visual and sonic elements of a video game based on player action and interaction within a game.

Amongst procedural games, some are strictly procedural, in that they rely on clear objectives, fixed rules and/or right or wrong answers. One such category of strictly procedural music games is that of rhythm- or pitch-matching games. Players of strictly procedural music games score points based on the accuracy with which they can match pitch or rhythm, synchronize their actions to music within the game, or otherwise comply with the explicit or implicit musical rules of the game. Loosely procedural

music games rely less on rigorous adherence to rules or correct answers but rather facilitate improvisation and free-form exploration of music, or bring to bear a player's personal experience with the game's featured music. Games such as *Mario Paint Composer* or *My Singing Monsters* (2012) function as sandbox-type music-making or music-mixing games that allow players more freedom to create music by combining pre-recorded sonic elements in inventive ways. Other loosely procedural games take the form of quiz, puzzle or memory games that rely on a player's individual ability to recall musical material or match lyrics or recorded clips of songs to their titles (as is the case with the previously mentioned *SongPop*); even though the procedural rhetoric of these games requires players to accurately match music with information about it (that is to say, there is a right and a wrong answer), players bring their own memories and affective experiences to the game, and players without these experiences are likely much less successful when playing them.

Highly conceptual music games are those in which theme, genre, narrative, setting and other conceptual elements of the game are related to music or music making. Here, content and the context provide the musical materials for a music game. This contrasts with the 'procedural' axis which is concerned with the way the game is controlled. Conceptually musical aspects of games recognize how extra-ludic, real-world music experiences and affective memories create or influence the musical nature of the game. This is often accomplished by featuring a particular genre of music in the soundtrack or including famous musicians as playable characters within the game. We can think of procedural and conceptual musical qualities as the differences between 'inside-out' (procedural) or 'outside-in' (conceptual) relationships with music.

Games may be predominantly procedurally musical, predominantly conceptually musical or some combination of the two. Many music games employ both logics – they are not only procedurally musical, as they facilitate musical activity, but the games' music-related themes or narratives render them conceptually musical as well. We can also observe examples of games that are highly conceptually musical, but not procedural (like the artist games named above), and games that are procedural, but not conceptual (like games where players can attend to musical materials to help them win the game, but which are not explicitly themed around music, such as *L.A. Noire* (2011)).¹¹

¹¹ See Steven B. Reale, 'Transcribing Musical Worlds; or, Is *L.A. Noire* a Music Game?', in *Music in Video Games: Studying Play*, ed. K. J. Donnelly, William Gibbons and Neil Lerner (New York: Routledge, 2014), 77–103.

Types of Conceptual Musical Content

Conceptual music games rely on rhetorical devices similar to those employed in rhetorical language, such as metonyms/synecdoches, which are used to describe strong, closely related conceptual ties, and epithets, for those with looser conceptual connections. A metonym is a figure of speech in which a thing or concept is used to represent another closely related thing or concept. For example, 'the White House' and 'Downing Street' are often used to represent the entire Executive Branches of the United States and British governments respectively. Similarly, the 'Ivy League' is literally a sports conference comprising eight universities in the Northeastern United States, but the term is more often used when discussing the academic endeavours or elite reputations of these universities. There are also musical metonyms, such as noting that someone has 'an ear for music' to mean not only that they hear or listen to music well, but that they are also able to understand and/or perform it well. Further, we often use the names of composers or performers to represent a particular style or genre of music as a synecdoche (a type of metonym in which a part represents the whole). For instance, Beethoven's name is often invoked to represent all Classical and Romantic music, both or either of these style periods, all symphonic music, or all 'art music' in general. Similarly, Britney Spears or Madonna can stand in for the genre of post-1970s pop music or sometimes even all popular music.

Metonymic music games are often considered musical because a prominent element of the game represents music writ large to the player or the general public, even if the procedural logic or mechanics of the game are not necessarily musical, or only include a small bit of musical interactivity. For example, *The Legend of Zelda: Ocarina of Time* is, by almost all accounts, an action-adventure game. Link, the game's main character, traverses the enormous gameworld of Hyrule to prevent Ganondorf from capturing the Triforce, battling various enemies along the way. Link plays an ocarina in the game, and, as one might be able to conclude based on the game's title, the ocarina plays a central role in the game's plot; therefore, the game could be considered a music game. Amongst the many other varied tasks Link completes, lands he explores, items he collects, and so on, he also learns twelve melodies (and writes one melody) to solve a few music-based puzzles, allowing him to teleport to other locations. For many, the amount of musical material in the game sufficiently substantiates an argument for labelling the game as a music

game. Most of the game does not involve direct interaction with music. It is limited to isolated (albeit narratively important) moments. We can therefore describe *Ocarina of Time* as conceptually musical in a metonymic way, but with limited procedural musical content.

Music games that are even further removed from music and music-making than metonymic music games are epithetic music games. An epithet is a rhetorical device in which an adjective or adjectival phrase is used as a byname or nickname of sorts to characterize the person, place or thing being described. This descriptive nickname can be based on real or perceived characteristics, and may disparage or abuse the person being described. In the case of Richard the Lionheart, the epithet 'the Lionheart' is used both to distinguish Richard I from Richards II and III, and to serve as an honorific title based on the perceived personality trait of bravery. In *The Odyssey*, Homer writes about sailing across the 'wine-dark sea', whereas James Joyce describes the sea in *Ulysses* using epithetical descriptions such as 'the snot-green sea' and 'the scrotum-tightening sea'; in these instances, the authors chose to name the sea by focusing closely on only one of its many characteristics (in these cases, colour or temperature), and one could argue that colour or temperature are not even the most prominent or important characteristic of the sea being described.

Epithetic music games are video games classified by scholars, players and fans as music games, despite their obvious lack of musical elements or music making, due to a loose or tangential association with music through its characters, setting, visual elements, or other non-aural game assets, and so on. These games differ from metonymic games in that music is even further from the centre of thematic focus and gameplay, despite the musical nickname or label associated with them; in other words, the interaction with music within these games is only passive, with no direct musical action from the player required to play the game or interact with the game's plot.

These epithetic connections are often made with hip-hop games. Hip-hop games are sometimes classified as music games because, aside from the obvious utilization of hip-hop music in the game's score, many of the non-musical elements of hip-hop culture can be seen, controlled, or acted out within the game, even if music is not performed by the player, per se, through rapping/MC-ing or turntablism. Making music is not the primary (or secondary, or usually even tertiary) object of gameplay. For example, breakdancing is a para-musical activity central to hip-hop culture that can be found in many hip-hop games, but in non-rhythm hip-hop games, a player almost never directs the movements of the dancer. Boom boxes,

or 'ghetto blasters', are also a marker of hip-hop culture and can be seen carried in a video game scene by non-player characters, or resting on urban apartment building stoops or basketball court sidelines in the backgrounds of many hip-hop-themed video games, but rarely are they controlled by the player. Games such as *Def Jam Vendetta* (2003), *50 Cent: Bulletproof* (2005) and *Wu-Tang: Shaolin Style* (1999) are sometimes classified as music games due to the overt and substantial depictions of famous hip-hop artists, despite the lack of musical objectives or themes within these fighting and adventure games. Here, particular rappers are used as icons for hip-hop music and musical culture. For example, *Def Jam Vendetta* is a fighting game wherein hip-hop artists such as DMX, Ghostface Killah and Ludacris face off in professional wrestling matches. Similarly, the NBA Street series features hip-hop artists such as Nelly, the St. Lunatics, the Beastie Boys and others as playable characters, but since the artists are seen playing basketball, rather than engaging in musical activities, they are epithetic and loosely conceptual music games.

While it might be tempting to classify games as either procedurally or conceptually musical (and often games do tend to emphasize one or the other), this does not allow for the complexity of the situation. Some games are especially musical both procedurally and conceptually, as is the case with games such as those in the Rock Band and Guitar Hero series which require players to perform musical activities (rhythm matching/performing) in a conceptually musical gameworld (as in a rock concert setting, playing with rock star avatars, etc.). It is perhaps more helpful to consider the two elements as different aspects, rather than mutually exclusive. The procedural–conceptual axes (Figure 9.1) can be used to analyse and compare various music games, plotting titles depending upon which traits were more prominent in each game. We can also note that the more a game includes one or both of these features, the more likely it is to be considered a 'music game' in popular discourse.

Using this model, *Rocksmith* would be plotted in the upper right-hand corner of the graph since the game is both especially procedurally musical (rhythm-matching game that uses a real electric guitar as a controller) and conceptually musical (the plot of the game revolves around the player's in-game career as a musician). *Rayman Origins* (2011) would be plotted closer to the middle of the graph since it is somewhat, but not especially, procedurally or conceptually musical; on the one hand, players that synch their movements to the overworld music tend to do better, and the game's plot does have some musical elements (such as a magical microphone and dancing non-playable characters); on the other hand, this game is

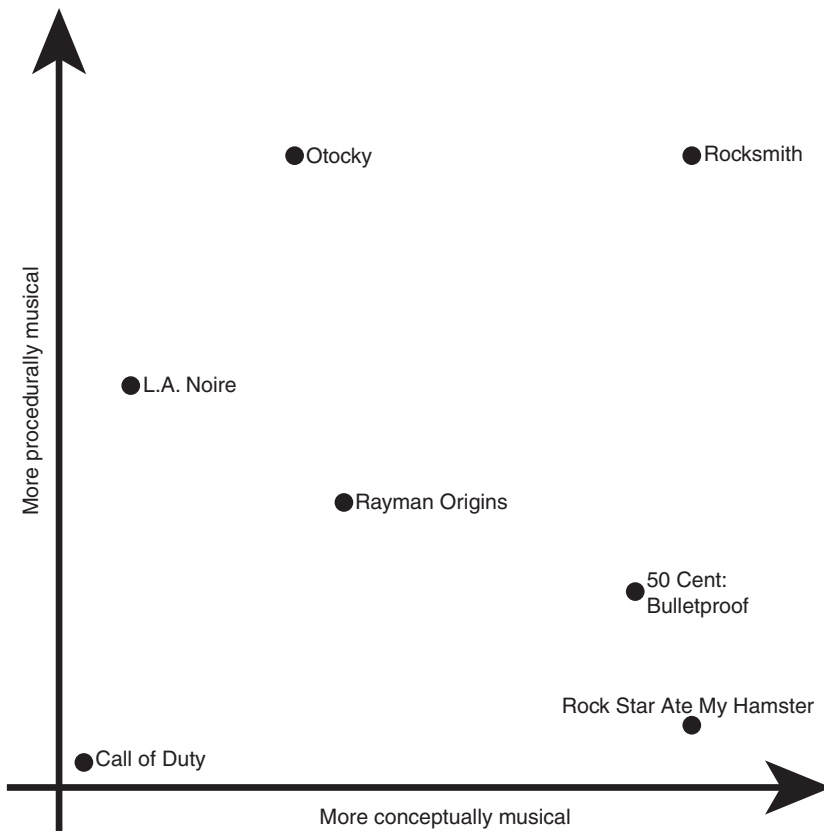


Figure 9.1 Graphical representation of procedural-conceptual axes of music games

a platform action game in which the object is to reach the end of each level, avoid enemies and pick up helpful items along the way, not necessarily to make music per se. Games in the Call of Duty or Mortal Kombat franchises, for example, would be plotted in the bottom-left corner of the graph because neither the games' mechanics nor the plot, setting, themes and so on, are musical in nature; thus, it is much less likely that these games would be considered by anyone to be a 'music game' compared to those plotted nearer the opposite corner of the graph.

Conclusions

Even if music video games never regain the blockbusting status they enjoyed in the mid-to-late 2000s, it is hard to imagine that game creators

and publishers will ever discontinue production of games with musical mechanics or themes. While the categorical classification of the music game and its myriad forms and (sub)genres remains a perennial issue in the study of music video games, there exists great potential for research to emerge in the field of ludomusicology that dives deeper into the various types of play afforded by music games and the impact such play can have on the music industry, the academy and both Eastern and Western cultures more broadly.