Genre in Genre: The Role of Music in Music Games

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ABSTRACT

The first academic researchers of music and dance games focused their primary attentions on ethnographic observations of game play, how the shift from arcade to console play affects game play strategies, defining embodied aesthetics, and analyzing the rise of a competitive play circuit in Dance Dance Revolution fan culture [Chan; Demers, 2006; Smith, 2004; Behrenshausen, 2007]. The Dance Dance Revolution franchise has attracted the attention of both academic researchers and members of the education and medical establishments, who wish to harness the power of exergaming in physical education classes to combat rising levels of childhood obesity. Less attention has been by academic researchers to the economics of the production of these games or the ways that the management of track lists, genres, and artists in music games affects gamers' opinions of these titles and their evaluation of the relationship between a game's core mechanics and in-game outcomes.

This paper analyzes the ways that game publishers and developers create and license the music for games such as Flow: Urban Dance Uprising, Band Mashups, the Guitar Hero, Rock Band and Dance Dance Revolution franchises, and the forthcoming titles Scratch and DJ Hero. Critics' and gamers' complaints about the use of "soundalikes" to replace the master recordings by original artists along with recent attempts from Warner Music to push for increased licensing fees point to ongoing controversies over in-game music and the industrial relationships between the gaming industry, the recording industry, and performance rights organizations such as ASCAP, BMI, and SESAC. This paper also examines how particular genres of music create difficulties for game design, constructing the relationship between on-screen content, the player, and game peripherals, and for players working to make sense of the relationship between their musical and gaming tastes. Examples I discuss include blog reactions to the introduction of country music as downloadable content in *Rock Band*, the lukewarm reception given THQ's *Band Mashups*, fan and critical ruminations over the potential success or failure of the turntable peripheral in *Scratch* and *DJ Hero*, and the difficulties of mapping hip hop into the dance game in *Flow! Urban Dance Uprising*. Reactions to the introduction of country music in *Rock Band* ran the gamut, with many bloggers and online fans expressing frustration that the visual culture of the game and its embrace of rock culture militated against the inclusion of country music. Likewise, many gamers and critics were bewildered by *Band Mashups*, a game that simulated a battle of the bands and a battle of musical genres. Even the deceptively simple *Dance Dance Revolution* franchise illustrates the difficulty of managing the track list for each title. The need for genre diversity and for a range of songs with varying numbers of beats per minute to satisfy inexperienced, intermediate, and advanced players illustrates the need for designers to have at least an elementary knowledge of musicology and/or musical form. Perhaps the most interesting example of a music game's failure is *Flow! Urban Dance Uprising*. This game, developed by Artificial Mind and Movement and published by Ubisoft, illustrates the difficulty of mapping hip hop onto a *DDR* style game. The biggest problem with *Flow* wasn't the paucity of A-list artists and a track list that privileged lesser known songs that were hard to groove to, but the ways that game designers made few significant modifications to the core mechanic of the dancing game. In *Flow*, it is a stretch to think that the diegetic operator acts of the player bear any "realistic" relationship to the "machinic embodiments" of the onscreen avatar's breakdancing moves [Galloway, 2006]. Players seem willing to suspend disbelief that the scrolling arrows in DDR match up exactly to the movements of the player on the pad and the movements of the onscreen avatar, but the complicated breakdancing moves performed by the avatar in Flow substantively challenge the relationship of action and outcome that Katie Salen and Eric Zimmerman [2004] posit as critical to designing meaningful play.

Author Keywords

Games, music, licensing, genre

INTRODUCTION

The first academic researchers of music and dance games focused their primary attentions on ethnographic observations of game play, how the shift from arcade to console play affects game play strategies, defining embodied aesthetics, and analyzing the rise of a competitive play circuit in *Dance Dance Revolution* fan culture [Chan; Demers, 2006; Smith, 2004; Behrenshausen, 2007]. The *Dance Dance Revolution* franchise has attracted the

attention of both academic researchers and members of the education and medical establishments, who wish to harness the power of exergaming in physical education classes to combat rising levels of childhood obesity. Less attention has been by academic researchers to the economics of the production of these games or the ways that the management of track lists, genres, and artists in music games affects gamers' opinions of these titles and their evaluation of the relationship between a game's core mechanics and in-game outcomes.

This paper analyzes the ways that game publishers and developers create and license the music for games such as *Flow: Urban Dance Uprising*, *Band Mashups*, the *Guitar Hero*, *Rock Band* and *Dance Dance Revolution* franchises, and the forthcoming titles *Scratch* and *DJ Hero*. Critics' and gamers' complaints about the use of "soundalikes" to replace the master recordings by original artists along with recent attempts from Warner Music to push for increased licensing fees point to ongoing controversies over in-game music and the industrial relationships between the gaming industry, the recording industry, and performance rights organizations such as ASCAP, BMI, and SESAC. This paper also examines how particular genres of music create difficulties for game design, constructing the relationship between on-screen content, the player, and game peripherals, and for players working to make sense of the relationship between their musical and gaming tastes.

Examples I discuss in the larger project (of which this paper is an excerpt) include blog reactions to the introduction of country music as downloadable content in *Rock Band*, the lukewarm reception given THQ's *Band Mashups*, fan and critical ruminations over the potential success or failure of the turntable peripheral in *Scratch* and *DJ Hero*, and the difficulties of mapping hip hop into the dance game in *Flow! Urban Dance Uprising*. Reactions to the introduction of country music in *Rock Band* ran the gamut, with many bloggers and online fans expressing frustration that the visual culture of the game and its embrace of rock culture militated against the inclusion of country music. Likewise, many gamers and critics were bewildered by *Band Mashups*, a game that simulated a battle of the bands and a battle of musical genres.

In this paper, I address the basics of video game music licensing before analyzing the ways that the *Dance Dance Revolution* franchise and *Flow! Urban Dance Uprising* work to incorporate music. The first section of this paper defines some of the terms and outlines the basics of how music licensing in games works industrially. The next section of the paper addresses the musicality of the above mentioned video games.

Even the deceptively simple *Dance Dance Revolution* franchise illustrates the difficulty of managing the track list for each title. The need for genre diversity and for a range of songs with varying numbers of beats per minute to satisfy inexperienced, intermediate, and advanced players illustrates the need for designers to have at least an elementary knowledge of musicology and/or musical form. Perhaps the most interesting example of a music game's failure is Flow! Urban Dance Uprising. This game, developed by Artificial Mind and Movement and published by Ubisoft, illustrates the difficulty of mapping hip hop onto a DDR style game. The biggest problem with Flow wasn't the paucity of A-list artists and a track list that privileged lesser known songs that were hard to groove to, but the ways that game designers made few significant modifications to the core mechanic of the dancing game. In Flow, it is a stretch to think that the diegetic operator acts of the player bear any "realistic" relationship to the "machinic embodiments" of the onscreen avatar's breakdancing moves [Galloway, 2006]. Players seem willing to suspend disbelief that the scrolling arrows in DDR match up exactly to the movements of the player on the pad and the movements of the onscreen avatar, but the complicated breakdancing moves performed by the avatar in Flow substantively challenge the relationship of action and outcome that Katie Salen and Eric Zimmerman [2004] posit as critical to designing meaningful play.

LICENSING MUSIC FOR VIDEO GAMES

Together, declining sales (or at least the myth of lower CD sales figures), increasing difficulties in promoting artists via radio and music television, and the rising threat of the web supplied an economic rationale for pursuing music licensing. The industry, however, had more than just economic concerns to worry about. Aggressive litigation driven by the desires to curb piracy and enforce copyright, along with a discursive construction of consumers as the enemy of the industry, angered the public and broke the "contract" between the industry and consumer. Music licensing became a way for the industry to conduct business behind the scenes and to work with other media industries instead of a disconsolate public. Licensing agreements were seen as a way to revitalize the industry and a way to conduct business with other media firms rather than with a public that had been constructed as the enemy.

Sony Computer Entertainment America (SECA) executive VP Jack Tretton argued, "With the music industry suffering at retail, the games business presents an opportunity, as its demographic fits ours quite nicely" [Traiman, 2003]. Widely reported in the trade press in early 2003, consumer research done by ElectricArtists found that video game soundtracks had a positive effect on CD sales, with hard core gamers saying they were 40% more likely to buy CDs of music they had heard during game play. ElectricArtists CEO Mark Schiller claimed, "More and more, the major record labels are looking toward video games to help break new artists who might not have enough radio airplay or MTV exposure to generate respectable sales" [Gwinn, 2004, B7]. Or, as Greg O'Connor-Read, founder of Music4Games.com quipped, "Record companies are realizing that this is the new radio" [B7].

Illustrating the growing industrial visibility of the popular music game soundtrack, Brenner Adams, who manages the intellectual property rights for Xbox games, said that 1000

songs were submitted for potential use in the initial version of *Amped 2*. Two years later, he received 5000 songs for the sequel ["Video game music spurs CD sales," 2004, E3]. Indie labels and marginalized artists became especially interested in game soundtrack placements. On the opposite side of the negotiating table, Fred Northup, a music supervisor who worked on *Project Gotham Racing 2*, said that game licensing "gives a lot of exposure to a lot of bands that otherwise wouldn't get it" [E3].

Increased memory capacity in the hardware of gaming systems such as the Sony Playstation and Microsoft Xbox series and the success of memory cards for saving and storing game play allowed developers to design more complex algorithms. Sound and graphic design became more sophisticated with the advanced technological capabilities of game systems. As games became more complex, they took longer to finish. For example, early Atari console games were often impossible to win, leaving the player bored after about thirty minutes, whereas completing the avatar's journey in *Grand Theft Auto: San Andreas* consumed over forty hours of playing time. Much like film studios' practices and the television industry's emerging strategies, the gaming industry realized that using popular music kept gamers invested in the fate of game avatars and enhanced playing pleasures. In about fifteen years, game music shifted from the synthesized sounds of Nintendo's *Super Mario Bros.* (1985) to popular songs' saturation of many sports, racing, rhythm action and first-person shooter games by the early 2000s.

As a result of moves to exploit popular music's commercial potential, firms allocated portions of game development budgets to cover synchronization and master use licenses. As games began to use more and more previously recorded music, music supervisors and licensing divisions dealt with economic and representational issues. Economic issues included negotiating rights for synchronization and master use licenses as well as trying to convince labels and artists to lower licensing rates. Supervisors and clearinghouses also had to convince labels, artists, and music publishers that putting songs into violent video games wouldn't hurt an artist's image and record sales or affect future potential licensing revenues. These economic and representational issues increased the industrial visibility of the music supervisor and opened doors to independent contracting firms specializing in negotiating licenses.

The influx of music into games came after the music industry understood licensing revenue's necessity and after the television industry's negotiations with the music industry had begun to settle into a groove. At times, first-person shooter games threatened to throw a wrench into some negotiations, with publishing firms and labels arguing that associating music with violent game content might hurt an artist's public image. However, because the gaming industry relied on a retail model, the gaming industry didn't have to fight as aggressively to obtain music as did many television producers and web-based firms.

As consoles became commercially successful and personal computer gaming became a viable market, arcades became specialized venues where consumers encountered flight and car simulators, *Dance Dance Revolution* (*DDR*), and other games that required peripherals one was unlikely to have at home. Most games - *DDR* is a notable exception – that prominently featured popular music were console titles. For example, the *Grand Theft Auto* series, with each title built on multiple levels, worked best on consoles where one could save the game on the memory card and gradually work one's way through the game. Gaming firms were not going to shell out licensing dollars for a song in the fifth level of a game when many arcade players might never make it there to hear it. Licensing popular music for game titles only made sense for console titles retailing at fifty dollars or more that needed music's extra flair to keep gamers playing for hours on end.

Game publishers and recording industry executives needed to iron out how licensing rates would be calculated. Three major variables structured licensing negotiations. First, if the game publishers and the record label were under the same conglomerate's umbrella or if pre-existing partnerships companies existed, lower rates could be negotiated. Second, the song's visibility in game content, advertising, and promotion affected licensing rates. Third, histories of cooperation, trust, and interactions between personnel at gaming firms and labels/publishing firms affected negotiations [High, 2005, 14]. Licensing rates were thus a byproduct of economic concerns and corporate cultures.

With conservative budgets of high profile games ranging from ten to twelve million dollars, Steve Schnur, Electronic Arts' worldwide executive of music and audio, told Kamau High in 2005 licensing music "is usually in the range of 1-2 percent of the overall budget" [14]. As a part of game development, some large publishers such as Electronic Arts set up offices in-house to administer music licensing. At the same time, independent contracting firms designed to facilitate and expedite the music licensing process began to emerge; these independent firms partnered with small and large publishers on specific titles. In 2003, San Francisco-based On Board Entertainment, run by former Electronic Arts executive Randy Eckhardt, was working on sixteen projects with publishers such as THQ, Konami, Sega, LucasArts, and Ubisoft [Traiman, 2003].

The gaming industry began using popular music to keep the attention of hardcore gaming audiences and to target subcultures previously ignored by publishers and developers. Tim Rosas, director of marketing and promotions and music supervisor for 2K Sports, said: "Hopefully through these music programmes, we can extend our reach outside of the core gaming community across many subcultures" [High, 2005,14].

However, the gaming industry's use of popular music to appeal to new demographics evidenced a tension between the trade press hype and the ways that games were designed and promoted. This tension manifested itself in the industry's attempts to woo African American and female

consumers. In 2004, Rod and Connie Woodruff and Joseph Saulter [2004] pointed out the limitations of the gaming soundtrack. They wrote,

> Hip hop music saturates many game soundtracks, and the ethnically diverse inner city has become the fashionable setting for the Grand Theft Auto series and its many progeny. What you won't see, however, are game ads on the BET cable channel, on African-American radio stations, or even on the most popular online hub for African American players, AAGamer.com.

A similar ambivalence still exists in promoting games to women – where most efforts target music and fitness games to women and first-person shooters remain the sole province of male players in the industry's mind. And attempts to target gay gamers are still virtually nonexistent. When video game publishing firms thought about music licensing, executives looked to licensing as a way to keep gamers' attention, make game play more exciting, and to differentiate their titles from their competitors.

CASE STUDIES OF MUSIC LICENSING

Using the *Dance Dance Revolution* franchise and *Flow: Urban Dance Rising* as case studies, I argue that game designers and music supervisors work together (with varying degrees of success) to construct game play and to manage the use of popular music. *Dance Dance Revolution* began as a game in Japanese arcades before Konami brought the game to American shores. As Jacob Smith [2004] and Alexander Chan note, early *DDR* arcade games were primarily located on the West Coast; early on, their high cost and the lack of awareness of the game made many arcade owners reticent to install the systems. Eventually, Konami released a console version, and today console versions of the game are available for the various Sony Playstation and Microsoft Xbox consoles. The game makes use of a dance mat with four arrows (left, right, up, down) with space in the middle of the mat for a player to stand and maneuver from. After its importation from Japan and its transition from arcade to console, *DDR* became a highly successful franchise spawning titles such as *DDR Ultramix 4*, *DDR Max* and *DDR Max 2*. *Flow!: Urban Dance Uprising* was released in 2005 by game publisher Ubisoft. Artificial Mind and Movement (A2M) developed the game. The game employs basically the same core mechanic as *DDR*, but *Flow* brings hip hop and rap music into the dance game.

In his analysis of gaming aesthetics, Alexander Galloway [2006] insists on using the terms "operator" to stand in for player and "machine" to refer to the game itself. To use these terms is "not to diminish the value of fun, meaningful play but to stress that in the sphere of electronic media, games are fundamentally cybernetic software systems involving both organic and nonorganic actors" [5]. Approaching games as "algorithmic cultural objects," Galloway retools the filmic categories of diegetic and nondiegetic for game studies, positing that game actions can be classified into four types: diegetic machine acts, nondiegetic operator acts, diegetic operator acts, and nondiegetic machine acts. Diegetic operator acts include "expressive" and "move" acts; thus, in rhythm action games the act of pushing buttons on the guitar in *Guitar Hero* or stepping on the appropriate arrows on the dance mat in *Dance Dance Revolution* affects how the avatar moves and how the game evaluates your dancing. Nondiegetic operator acts include "acts of configuration" and the "setup act"; this would involve setting up the game, toggling through menus, deciding which songs to play/dance to, and then selecting the level of difficulty (if possible). Diegetic machine acts include the "ambience act"; Galloway notes that the environmental sounds in a first-person shooter game (e.g., the rustling of leaves, the wind, the speech and movement of non playing characters) are all part of creating the atmosphere in a game. Diegetic machine acts play the least important role in rhythm action games, with one notable exception being the announcer's voice in *DDR* that evaluates your dancing and the sounds and reactions of the onscreen audience in games like *Karaoke Revolution*. Galloway's last category is the nondiegetic machine act, which lies primarily at the level of code and informatics. These acts are performed by the machine but are not organically part of a narrow definition of the game world. The depressing "game over," "disabling acts" (including the death act), "enabling acts," and "machinic embodiments" of patterns and the avatar itself are a part of this category. Galloway argues that while most games include all these acts, particular games emphasize certain acts over others; he argues that *DDR* privileges nondiegetic machine acts at the level of code [38]. Galloway's labeling of *DDR* dovetails nicely with Joanna Demers' assertion that *DDR* creates a "cybernetic dance," but I use Galloway here because his classificatory system opens the door to further considering the construction of a game – both production processes and textual components that work together to create the meaning of a game and the embodied experience of play.

Game studies scholars refer to "core mechanics" – "the essential play activity players perform again and again in a game" [Salen & Zimmerman, 2004]. In the case of *DDR* and *Flow*, the core mechanic is stepping on dance arrows again and again for the duration of a song. The consistency of the core mechanic in *DDR* and other dance games across gaming consoles has led some to argue that the core mechanics of these games are simple. In his attempts to use *DDR* as a way to establish a "kinaesthetics" of gaming, Bryan Behrenshausen writes, "The mechanics of *DDR* seem almost too simple to have spawned such a popular reception." He calls *DDR* "a game text with no overarching narrative and no ultimate end-state – a game whose object is simply to perform, and perform well" [338-9]. Joanna Demers begins her analysis of *DDR* fan cultures on a more nuanced note, arguing, "For game developers, fans and promoters, the 'revolution' in *Dance Dance Revolution* is its combination of dance, physical exercise, music, and sophisticated graphics technology, united for the first time

in a video game" [2006, 403]. However, Demers' discussion of "cybernetic dance" echoes technoutopian writings in cyberpunk function and new media studies in the 1990s which overemphasized the liberatory potential of virtual culture and treated the avatar-user connection in terms of cinematic suture [403, 413]. Galloway's four part system links the "deceptively simple" core mechanic to a more complex system of meaning making in games and highlights that the core mechanic is a design construct that depends on player activity, game algorithms, code, and console operation in order to work properly in facilitating game play and creating pleasurable experiences of play.

Konami executives in Japan and the United States saw the profit potential in American sales of *DDR*, bringing it to American shores in 1999 for the Sony Playstation. By updating the game and managing the *DDR* franchise carefully, Konami succeeded in turning the various incarnations of *DDR* into best-selling rhythm action games. Crucial to the success of the *DDR* franchise were the ways that game designers at Konami and music supervisors (most of whom are hard to identify given the corporate authorship model of game development) developed new ways to play the game and designed game play that would draw in novice players and keep experienced players invested.

Part of the success of the *DDR* franchise was that designers incorporated new ways to play the game in new titles. First, introducing new titles allowed players to dance to new songs, refreshing the sonic aspects of game play. For instance, *DDR Ultramix* (2003) included 45 songs, *DDR Extreme* (2004) included 65 songs, and *DDR SuperNOVA* (2006) included over 70 songs. Track lists for each title were released in popular gaming news sites and forums such as ign.com and gamespot.com, drawing attention to the new songs included in each release and whetting user's appetites to buy and play the new titles so that they could unlock hidden songs. The newest incarnations of the *DDR* franchise also allow players to download songs off the Internet, many titles have expansion packs that can add new songs, and fan-based game modifications (largely unsanctioned by Konami) potentially multiply the number and type of songs that that players can access. Thus, the music of *DDR* titles is important for its variety and the way that track lists give players a wide range of diegetic operator acts to choose from in setting up and accessing the game.

DDR SuperNOVA provides an excellent example of the way that Konami Americanized *DDR*. In moving *DDR* from the Japanese to the American market, Konami chose to remove much of the J-Pop music in favor of American and European pop and techno. *DDR SuperNOVA* includes songs such as "Do You Want To" by Franz Ferdinand, "Girls Just Wanna Have Fun" by Cyndi Lauper, "Jerk it Out" by The Caesars, "Let's Dance" by David Bowie, "Robogirl" by The Crystal Method, and "Since U Been Gone" by Kelly Clarkson. Just the sampling of the songs above spans popular music from the 1980s-present, including tunes with a rock, pop, and techno aesthetic.

Managing the music meant not only having a balance of genres and a cross-section of artists, but also carefully managing the track lists so that various modes of play would keep players invested in the embodied play that *DDR* demands. Besides artist and genre, songs are chosen by speed, beats per minute, and the degree of difficulty they would require for players trying to keep step with the diegetic and nondiegetic machine acts of step patterns and the movement of the avatar onscreen. Designers and music supervisors had to work to license and include a range of songs so that novice players just getting used to the feel of the dance mat, the rhythm of the steps, and coordinating their feet and their eyes could keep up with the scrolling arrows onscreen. They also had to include harder songs (higher beats per minute, more complicated step patterns, faster scrolling arrows) that would encourage experienced players to keep challenging themselves to struggle to keep the rhythm and that would make these players want to progress and unlock all of the hidden songs in the game.

In addition, designers and supervisors had to license and include songs for various play modes that would work for players of various skill levels. *DDR* versions in the US often include the Workout Mode, where gamers can track how many calories they've burned; presumably on this level one would want to pick songs with higher beats per minute and more difficult step patterns, but newer and out of shape players would need to start slow. Newer versions include an Edit Mode where players can create and customize their own dance steps as well as a Challenge Mode and a Battle Mode.

With the various modes of game play and the varying skill level of players, designers and music supervisors needed to license a range of music that would keep people playing and buying console titles. At the same time, the rise in game peripherals, particularly the Eye Toy, signaled that designers had to think not only about the potential player and the various modes of play in the game itself, but also the potential peripherals that gamers might use in playing the game. Designers also were likely pushed by hardware manufacturers and their bosses to incorporate new peripherals.

The Eye Toy is a small camera that communicated with the gaming console. Traditionally, the Eye Toy is placed on the top of the television to which the game console is attached. When playing *DDR* with the Eye Toy, the flashy avatar onscreen disappears and your body appears onscreen behind the scrolling arrows. Sometimes using the Eye Toy means that you must keep your feet in time with the arrows and that you must keep in time with special hand movements as well. Suppose we adopt the point of view of a mid-level DDR player who purchases an Eye Toy and begins playing the game in this new way. While we wouldn't want to go back to the easiest songs we've already mastered, we wouldn't want to go beyond our skill level because we would be getting used to a new mode of play and re-learning certain aspects of game play. We would be most likely to keep playing the game if there were a sufficient

number of songs in the game that would allow us to pick easy to mid-level difficulty songs, learn how to use our feet and our hands, and get used to seeing our own faces and sometimes clumsy moves on the screen.

Good game designers working with music supervisors on the legal and representational aspects of game development would think about players with widely disparate skill levels, playing goals, modes of play, and comfort with peripherals. Thinking through these issues would help designers think through the ways that the actions of players (stepping on the mat) relate to the outcome of the game (passing levels and unlocking songs) in order to create what Salen and Zimmerman term "meaningful play." Salen and Zimmerman define "meaningful play" in the following way: "Meaningful play in a game emerges from the relationship between player action and system outcome; it is the process by which a player takes action within the designed system of a game and the system responds to the action. The meaning of an action in a game resides in the relationship between action and outcome." As I've illustrated in the case of *DDR*, designers work to structure play; the choices made by designers and music supervisors in the rhythm action game can either make play meaningful and fun or arbitrary and boring.

The success of the *DDR* franchise made other game publishers and development firms interested in making dance games that could offer gamers something that *DDR* titles didn't. While there are many games that could be considered here, I will focus on *Flow!: Urban Dance Uprising*. Game publisher Ubisoft and development firm Artificial Mind and Movement (A2M) released *Flow* in 2005. Randy Eckkardt served as the music supervisor. Dubbed my most a hip hop *DDR*, *Flow* was largely panned by the game press and received lukewarm to scathing reviews on ign.com and other gaming sites. Rather than focus on the game's lack of critical and popular success, I argue that *Flow*'s failures indicate that game designers and music supervisors must work to construct the embodied play of the dance game by considering new ways to manage track lists and the relationship of each track to nondiegetic machine acts (the movements of the avatar), diegetic operator acts (the steps on the dance mat), and interactions between the player's body and game peripherals.

While *Flow* incorporated both older and newer hip hop tracks, most of the tracks never achieved the commercial success of the songs often included in *DDR* titles. This signals that Ubisoft's budget allocation for music licensing wasn't enough to license A-list hip hop artists. The most recognizable tracks – Kurtis Blow's "The Breaks" and Eric B. and Rakim's "Don't Sweat the Technique" and "Microphone Fiend" – come from 1980s hip hop artists, which might have been less expensive to license given younger listeners' and gamers' unfamiliarity with these artists.

It's likely that Eric B. and Rakim and Blow were chosen by the supervisor and developers in order to contribute an air of "authenticity" to the project, given that both artists were critically acclaimed 1980s hip hop artists. On the whole, however, one gets the feeling as a player that the music was chosen primarily on the basis on budgetary concerns, because the songs chosen often don't map well onto the rhythm of the scrolling arrows. As a reviewer on Worthplaying.com states,

> If anything, there's a reason why techno is chosen for these games over hip hop: where techno is all about consistent downbeats, heavy rhythm lines, and complex patterns, hip hop lays more emphasis on the vocals and technical patterns with lots of changes. This is no mark against hip hop – I'm rather fond of it – but with heavy syncopation and tracks that don't sync to the backbeat or change almost randomly, this is just not music you can dance to *DDR* style without feeling very disconnected.

Surely, in a genre as large as hip hop, there would be tracks available for licensing that would sound more "danceable." Players are left with the feeling that the music was haphazardly chosen and that the algorithms that govern the generation of arrows were randomly designed.

The biggest problem with *Flow*, however, wasn't the paucity of A-list artists and a track listing that privileged lesser known songs that were hard to groove to, but the ways that game designers made few significant modifications to the core mechanic of the dancing game. While the game did incorporate African American and Latino avatars and place them in stock urban locations, it was a stretch to think that the diegetic operator acts of the player bore any "realistic" relationship to the "machinic embodiments" of the onscreen avatars breakdancing moves. Demers argues that there is a basic similarity between the arrows in *DDR* and social dance notation; extending her argument, one could argue that the arrows in *DDR* are an algorithmic approximation of the steps laid out on the floor in older styles of dance pedagogy. In this way, the arrows in *DDR* can be seen as a 2-D game analogue for the numbered feet that are often placed on the floor in order to outline the steps necessary to successfully perform the fox trot. While it is undeniably a stretch to equate the fox trot to techno dancing, both forms of dancing place primary emphasis on the feet and the lower body. This emphasis on the feet and the lower body makes it easier for gamers to think of *DDR* movements as dancing. However, *Flow* illustrates how hip hop music in the dance game challenges a gamer's perceived relationship between action and outcome and challenges the game designer to find ways to innovate within the genre of the rhythm action game.

Game play illustrates that designers struggled to make play meaningful for players, given the less direct relationship here between action and outcome. Players were willing to suspend disbelief that the scrolling arrows in *DDR* matched up exactly to the movements of the player on the pad and the movements of the onscreen avatar, but the complicated breakdancing moves performed by the avatar in *Flow* substantively challenged the relationship of action and

outcome that Salen and Zimmerman posit as critical to designing meaningful play. While specialized "power moves" in the game tried to break out of the norms of *DDR* play, designers appear to have struggled with how to make foot-based maneuvers on the dance pad stand in for breakdancing moves such as handstands and head spins which involve mainly the upper body.

The failure to deal with the various breakdancing moves dominated by the upper body became one of the major aspects of game play that reviewers found frustrating. David Clayman writes,

> Unfortunately while the game makes a number of break dancing references it never encourages more than the typical fancy footwork. I was hoping that the game would suggest hitting the mat with hands, elbows, or even your head, but the challenges are pretty standard. You can always crank up the difficulty and invent your own challenges but that's about it for pop-lockin' and power moves.

While what Clayman wants would likely lead consumers to sue Ubisoft and A2M for damages resulting from physical injuries incurred during game play, Clayman's point that designers failed to take advantage of the Eye Toy is better thought out. He writes,

> Another where [sic] *Flow* shows untapped potential is the Eye Toy functionality. Players can use this peripheral to put themselves on screen behind the scrolling dance arrows. It's ashamed that the camera isn't used to make players use their arms as well as their legs during the challenges. *Flow* would completely set itself apart from *DDR* with the addition of challenges players to touch objects around their bodies as a bonus [sic]. I can even imagine a scenario where players can 'serve' each other by pulling off hand and foot combos. The possibilities are endless.

Unlike game designers at Konami who thought through designing for various skill levels and peripherals, game designers at A2M failed to take advantage of the Eye Toy to design embodied play that may have proven too difficult to design for the dance mat.

Designers at A2M likely struggled to make play meaningful, but working under the timeline and budgetary constraints imposed by Ubisoft, designers were likely limited in how much they could work with the music supervisor to improve the game. Shifting musical genres in *Flow* from techno and pop to hip hop meant that designers needed to revise the core mechanic. As a result of importing the core mechanic with few modifications, the music and game came off as haphazardly designed.

There is evidence that Konami effectively managed their brand DDR, and while there are insufficient sources to make this argument with certainty, it is likely that Ubisoft and A2M had difficulty negotiating the specifics of game production and development. Was Ubisoft's budget insufficient for the kind of large-scale design schemas that reviewers think would have improved the game? Or, did A2M designers not know enough about hip hop culture to design an effective hip hop dance game or fail to understand the importance of revising the game's core mechanic?

CONCLUSION

In this paper, I have addressed the ways that music licensing has evolved in the gaming industry and how musical genres and musical properties. Future work should address a wider array of games, and new games will likely challenge and refine the ways that designers, producers, music supervisors, and development and publishing firms approach the music in music games. In an increasingly saturated market, innovation in managing music may prove the key to not only critical praise from writers at Gamasutra, *Edge*, and IGN, but also to increased sales at GameStop, Amazon, and Toys R Us.

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