

A True Revolution: Case History of the Design of *Dance Dance Revolution*

By Audrey Tsang

March 22, 2001

With an evil glimmer in her eye, Julia Roberts shoves the microphone into Cameron Diaz's hand and pushes her out of her seat. Before Diaz knows it, she's standing up in front of an entire karaoke bar of expecting faces, all watching her and waiting. The suburban girl in a pink twin-set sweater stands before them, with no other desire than to sink back into her seat and disappear. All the while, the seasoned Roberts sits and revels while Diaz squirms. But not to be defeated, Diaz forces herself to croak out a line to the song, and before she knows it, she's winning the audience over with her carefree, shameless attitude. And the story ends with Diaz still the one walking down the aisle in Roberts' *Best Friend's Wedding*. Most of us are not prima donnas but we still find a certain release and fun in grabbing the microphone and bawling out some karaoke hit. It is when we have no shame and forget our reservations that the fun starts happening for the one singing and the ones listening, regardless of talent or lack thereof. Many have called Konami's beat driven hit game, *Dance Dance Revolution (DDR)* the "karaoke for the feet" because it takes guts to get up on the game cabinet's stage, in front of an arcade full of people, and tie our legs into knots, showing off our sense of rhythm and coordination – or, again, lack thereof. This interesting test of physical skill was Konami's response to a gamer population's need for a video game that defied all previous preconceptions about video games.

Popularized in the arcades of Japan, the eight-foot tall game cabinet first appeared in American arcades last year. Home versions were released after the arcade version for the

Playstation and DreamCast in Japan. The Playstation version was only formally released in the U.S. two days ago.

Game play is intuitive. Each machine had a stage before it with two sets of arrows, one set for each player. The arrows point in the four directions: up, down, left, and right. And the goal of the game is to step on the arrows in time to the graphical arrows scrolling up the screen. As each arrow reaches a certain height at the top of the screen, the player must step on the corresponding arrow on the stage. Points are gained by stepping on the correct arrows, on the correct beat. Missing too many arrows and beats could potentially bring about an abrupt stop in the song and the word “FAILED” flashing across the screen. *Dance Dance Revolution* is a game of coordination, timing, and practice, driven by catchy, techno-fied songs. The biggest and only detraction from it is the courage it takes to get up in front of a crowd of people in an arcade and try it. On the other hand, like karaoke, once tried, *DDR* is extremely addictive.

Walking around an arcade, a *Dance Dance Revolution* machine will always stand out amongst the hundreds of shooting games, fighting games, and racing games. What drove its maker, Konami Inc. to create such an atypical concept for an arcade? And how did it get to be one of the top arcade games in Japan for the past few years, with growing popularity in the U.S. and abroad?

Konami of Japan has been creating entertainment machines for over three decades. Founded in Osaka, Japan in 1969, Konami has built itself up to be one of the top game producers for both arcades and consoles. But Konami didn't come to this status without struggle and without learning an important lesson about what makes good games. *Dance Dance Revolution* is a product that reflects their thirty years of valuable experience in the industry.

Konami was the leader of the gaming market until 1992. Some of their successful titles included *Frogger* (1981), *Gyruss* (1983), *Yie Ar Kung Fu* (1985), and *Double Dribble* (1986). By 1987, they were Nintendo's leading outside developerⁱ, largely due to three of their "beat-em-up" games: *Contra* (1986), *Castelvania* (1986), and *Teenage Mutant Ninja Turtles* (1989). Konami thought that it had figured out what gamers wanted: make some kind of beat-em-up game like the last three titles and they would have a hot seller on their hands. In 1991, Capcom proved them very wrong with the release of *Street Fighter II*. Suddenly, Konami's formula for success was failing miserably. During the following three years, Konami's name practically vanished from the video game scene, and for the first time, the company was actually experiencing losses in profits. In 1995, the company undertook a new direction, deciding to focus on racing, fighting, and sports games.ⁱⁱ They had finally learned the important lesson that gamer tastes were constantly changing and gamers were constantly seeking out new ideas and experiences in gaming.

In '97 and '98, Konami pushed the bounds of arcade game design even further. In 1997, they worked with IBM to develop new arcade hardware, the COBRA board, which would allow the number of polygons for 3-D rendering to increase dramatically, as demonstrated in their game, *Virtua Fighter 3*. After this graphical expansion, in 1998, many of their products defied even the conventions of standard arcade cabinets.ⁱⁱⁱ Rather than stay with the traditional box-and-screen cabinet, Konami came out with new cabinet accessories and methods for player interaction. The first of these games was *Fisherman's Bait Kit*, a fly-fishing simulation with a rod and reel attached to the game. They then launched *Puri Puri Canvas*, which allowed users to alter sticker photos with drawings and colors. Not so much a game, *Puri Puri* became a staple in arcades as another form of social entertainment. Finally, 1998 also saw the release of *Hip Hop*

Mania, later called *Beatmania* in the United States. This game's extra accessory was a five-key keyboard and simulated DJ turntable. 1998 serves as an example of what Konami has learned about innovation and experimentation in the video games business. If *Street Fighter II* had broken the rut of beat-em-ups, the *Bemani* series would break the rut of fighting and racing games. Konami was going to launch a new craze in arcade games that would soon take over Japan. And their formula for success was knowing when was a good time for a revolution.

Beatmania's success in 1998 inspired Konami to continue experimenting with music and beat games. This game, in fact, started the entire *Bemani* or "beat game" series that included the *Beatmania* series, the *Dance Dance Revolution* series, and *Guitar Freaks*. Gamers were looking for a new way to interact with games and they were ready for something different from the endless chain of fighting and racing games that had come in the preceding years. *Beatmania* inspired the creation of *Dance Dance Revolution* towards the end of 1998. This innovation in player interaction and style proved very successful. After the release of the *Bemani* games in 2000, the company saw a 260 percent increase in net income, largely coming from the *Beatmania* series and *Dance Dance Revolution* series sales.^{iv}

From the start, *DDR* already had the addictive, test-of-coordination game-play. The route Konami took in developing the *Dance Dance Revolution* series reflected their sensitivity to the fact that arcade-goers were looking for an entirely new kind of gaming experience. Between the original *Dance Dance Revolution* and *Dance Dance Revolution Mix 2*, the major changes were exactly what the titles indicated. Rather than improve graphics, develop the characters, or build up the animation, Konami focused on the music. *DDR*, the original, was mostly criticized for having a poor soundtrack. For *Mix 2*, Konami partnered with Intercord/Toshiba EMI, a large music producer in Japan to improve the selection of songs.^v The focus on music was the right

choice for this genre of games. American *DDR* fan websites prove this. Much of the discussion and news centers on the musical additions to each version. And many fans are vehemently attached to some songs, like “Butterfly,” voicing their demand that it always be kept in the song list for each *DDR*.

The choice to invest their time in the music is also demonstrated in comparing *DDR* to another, similar game. Jaleco, another video game producer, also made a spin-off of *DDR*: *Stepping Selection*, for the Playstation. It featured songs and videos from popular artists like Britney Spears and the Backstreet Boys. However, it never achieved the popularity of *DDR*. The difference between the two came in the gameplay. *Stepping Selection* had six colored circles to step on instead of the more intuitive four arrows of *DDR*. This demonstrates that the game’s success did not need necessarily popular songs but songs that were good by a different standard. One *DDR* player, when asked what made a good song, replied, “It needs to have a clear beat that you can follow. And it helps if the song is catchy too.” It proved to be a good choice to invest in developing songs for the game rather than taking already existing pop songs and applying them to the game because the music was such a key element to game play.

Dance Dance Revolution also brought about many larger social and cultural changes that also reflect gamers’ needs for a revolution in arcade games. The changes demonstrate Konami’s realization of and response to this need. *DDR* served to culturally redefine video games major ways, particularly in the U.S.

Video games have built up a horrible reputation in the past years. Parents were highly opposed to the amount of violence and negative role models in games along with the anti-social image of the video gamer sitting in front of the T.V. all day long. *DDR* defied every negative connotation of the beat-em-ups, fighting games, and racing games that had dominated the past

decade in video games. First, there is no violence at all in the game's images. Furthermore, much like karaoke, the game lends itself to social occasions and gets the player out of his or her seat. A *DDR*-er with the home version, when asked why he would decide to play *DDR* over some other video game, responded, "I play a lot of other games but I usually bring *DDR* on Friday or Saturday nights when other people in the dorm would be free. It's much more social than other video games. A lot of times people walking by the room will come and play with us." Konami's marketing efforts sensed the stigma against video games and promoted their game as the healthy alternative. Mary Hermanson, representative for Konami of America observes, "The parents' reaction is definitely positive because it is nonviolent. If anything, it helps the player with his foot-eye coordination."^{vi} *DDR* is both Konami's response to the negative reputation of video games and a contrast from the same old violence-centered, anti-social games that gamers have seen for most of the history of video games.

DDR also helped to develop video games as the new spectator sport. Along with first-person shooter tournaments like the Quake III championships, *DDR* tournaments were springing up in various cities in the United States and Japan. But what makes *DDR* particularly appropriate for spectators is its element of performance. After all, *DDR* is based on dancing. The game design lends itself to performance and spectatorship. When watching a game, it's not the graphics that are interesting. The psychedelic animations can only go for so long before the eyes get tired and the mind gets bored. The interesting thing to watch is instead the player. Compared to other video games, where people watching will focus on the character jumping around on the screen, with *DDR*, the focus is on the human being jumping around on the stage. *DDR* websites and the Konami site itself frequently advertise registration for the different tournaments.

The tournaments usually have two categories: an accuracy competition and then a freestyle competition. The freestyle competition shows how *DDR* completely redefines the way people can interact with video games. Rather than working within the rules of the game with the sole goal to win the game, pass the levels, beat the opponent, *DDR* inspires people's creativity. This may be one of the first games where players will forgo a higher score in order to excel in one of the kinds of game play. Literature is available on the web that teaches *DDR*-ers to expand on their skills and begin to improvise. In Peter Hegedus' comprehensive FAQ article on *DDR*, he explains to first-time performers, "Keep in mind that performance dancers don't often actually get an S or an SS or whatnot in their routines – because it isn't their goal. Their goal is to entertain the crowd, and the only people who will say 'Yes, but they're missing all the steps!' is *DDR* score players."^{vii} Konami's dance and video game analogy to karaoke caused a new type of spectacle in arcades: the crowds of fifty people surrounding a *DDR* stage, watching as some teenager spun and dipped to techno.

Within the music/beat game genre, *DDR* may be the most successful because of this performance aspect. Although equally popular and fun, games like *Parappa the Rapper* or *Samba de Amigo* for the DreamCast have not experienced the same popularity. *Parappa the Rapper* is about the adventures of an animated dog, where to pass a level, *Parappa* must imitate the beats of different characters on a standard control pad. There is nothing particularly interesting to watch for *Parappa* to be a good spectator and performance game. *Samba de Amigo*, on the other hand, comes with a set of maracas that must be shaken to a particular beat at certain height. Again, *Samba* does not fit well with performance because there is much less room to improvise. *DDR* is the only one of its kind to change the spirit associated with video

games, instead of the highest-score, kill the other person attitude, *DDR* encouraged individuality and expression.

Dance Dance Revolution not only revolutionized arcade games, it is arguable that it revived the American arcade business. In the 1970's and 1980's, arcades were highly profitable but in the 90's, game costs went up significantly and new games were developed so quickly that arcades could not keep up or get enough plays to break even. Furthermore, game console technology was quickly advancing with better graphics, more games, and cheaper prices. The 90's saw a decrease in the number of arcades, and with decreased demand, fewer games were being produced for the arcade. Arcades became dark and dirty hangouts with a negative reputation.^{viii}

In response, Konami needed to create a game that would change the negative stereotypes about video arcades. What better way than to create a game where the bigger fools people made of themselves, the more fun it was to play. *DDR* broke down the negative arcade stereotypes, and, only available in the arcades, it brought a steady increase in the number of arcade goers. One article in the *Wall Street Journal*, observed, "the games has helped double the number of customers at Southern Hills Golfland, for example, which installed *DDR* last year."^{ix} Marketing Manager, Mary Hemanson, of Konami of America also expressed the revival of arcades as one of *DDR*'s objectives: "We try to keep the market going so people don't forget coin-op games and stay at home all the time playing their PlayStation."^x *DDR* was designed to revamp the negative image of video arcades, turning them into friendlier, more social, and more approachable hangouts for all *DDR* fan demographics.

Dance Dance Revolution was Konami's response to a video game industry that needed to be pushed beyond the *Street Fighter II* or *Daytona USA* rut. Konami's past failures taught them

to push for innovation, not just by producing new games but also by designing games with entirely different playing styles and different modes of interaction. The company's insights and experiences culminated in the most successful of the musical/beat game genre: that which is affectionately called *DDR*. The game not only responded to the present culture but also changed gamer culture significantly, and Konami built upon these changes in their marketing and business plans. *DDR* is a demonstration of the takeaways from Konami's thirty years of video game production experience.

Sources

Jer Horwitz and Mike Whalen. "The History of Konami."
<http://video.gamespot.com/features/universal/konami/> extracted 3/15/2001.

Nicole C. Wong. "Hip-Hop Music Sweeps Arcades with 'Dance Dance Revolution,'" Mercury News.
[http://www.DDRfreak.com/Press/SJ%20Mercury%20News%20-%20Hip-hop%20music%20sweeps%20arcades%20with%20'Dance%20Dance%20Revolution'%20\(7-22-2000\).htm](http://www.DDRfreak.com/Press/SJ%20Mercury%20News%20-%20Hip-hop%20music%20sweeps%20arcades%20with%20'Dance%20Dance%20Revolution'%20(7-22-2000).htm)
extracted 3/15/2001.

Colin Williamson. "Dance Dance Revolution 2nd Mix (Import)," IGNDC.
<http://dreamcast.ign.com/reviews/13500.html> February 24, 2000, extracted 3/16/2001.

Susan Lieu. "DDR: The Young and Agile," SF Gate.
<http://www.DDRfreak.com/Press/SF%20Examiner%20-%20DDR%20The%20young%20and%20the%20agile.htm> Sept. 22, 2000, extracted 3/20/2001.

Peter Hegedus. "The Complete *Dance Dance Revolution* Series FAQ."
<http://www.zdnet.com/gamespot/images/screenshots/gs/faqs/DDR.txt> Feb. 4, 2001, extracted 3/20/01.

Malcolm Maclachlan. "Arcades Shoot For a Comeback," TechWeb News.
<http://www.techweb.com/wire/story/TWB19980529S0018> May 29, 1998, extracted 3/18/01.

Khanh T. L. Tran. "In the Latest Arcade Craze, People Demonstrate Their Fancy Footwork," Wall Street Journal. <http://www.DDRfreak.com/Press/WSJ%20DDR.html> Aug. 16, 2000, extracted 3/15/01.

David Smith. "Dance Dance Revolution," IGNPSX. <http://psx.ign.com/previews/11525.html> Jan. 19, 2001, extracted 3/15/2001.

"PS Festival: Jaleco's PS2 Dancing Game," IGNPS2. <http://psx.ign.com/previews/11525.html> Feb. 17, 2000, extracted 3/15/2001.

"Stepping Selection," IGNPS2. <http://psx.ign.com/previews/13978.html> Mar. 17, 2000, extracted 3/15/2001.

Colin Williamson. "The Ten Wackiest Music Games of All Time," CNET Gamecenter.com.
<http://www.gamecenter.com/Features/Exclusive/Music/> Dec. 8, 2000, extracted 3/15/01.

Skyler Miller. "Dance Dance Revolution," Salon.com.
<http://www.salon.com/tech/feature/2001/01/23/DDR/> Jan. 23, 2001, extracted 3/16/01.

Jeff Gerstmann. "Samba De Amigo Review," Zdnet Gamespot.com.
<http://www.zdnet.com/gamespot/stories/reviews/0,10867,2589601,00.html> Oct. 10, 2000,
extracted 3/20/01.

www.bemanix.com

www.ddrfreak.com

Interviews with players:

Epson Chiang

David Yau

Chris Gearhart

Drew Spencer

Garrett Smith

Steven Ngai

Christina Ahn

Matt Pierson

Endnotes

ⁱ Jer Horwitz and Mike Whalen. “The History of Konami.” <http://video.gamespot.com/features/universal/konami/> extracted 3/15/2001.

ⁱⁱ <http://video.gamespot.com/features/universal/konami/>

ⁱⁱⁱ <http://video.gamespot.com/features/universal/konami/>

^{iv} Nicole C. Wong. “Hip-Hop Music Sweeps Arcades with ‘*Dance Dance Revolution*,’” Mercury News. [http://www.DDRfreak.com/Press/SJ%20Mercury%20News%20-%20Hip-hop%20music%20sweeps%20arcades%20with%20`Dance%20Dance%20Revolution"%20\(7-22-2000\).htm](http://www.DDRfreak.com/Press/SJ%20Mercury%20News%20-%20Hip-hop%20music%20sweeps%20arcades%20with%20`Dance%20Dance%20Revolution) extracted 3/15/2001.

^v Colin Williamson. “*Dance Dance Revolution* 2nd Mix (Import),” IGNDC. <http://dreamcast.ign.com/reviews/13500.html> February 24, 2000, extracted 3/16/2001.

^{vi} Susan Lieu. “*DDR*: The Young and Agile,” SF Gate. <http://www.DDRfreak.com/Press/SF%20Examiner%20-%20DDR%20The%20young%20and%20the%20agile.htm> Sept. 22, 2000, extracted 3/20/2001.

^{vii} Peter Hegedus. “The Complete *Dance Dance Revolution* Series FAQ.” <http://www.zdnet.com/gamespot/images/screenshots/gs/faqs/DDR.txt> Feb. 4, 2001, extracted 3/20/01.

^{viii} Malcolm Maclachlan. “Arcades Shoot For a Comeback,” TechWeb News. <http://www.techweb.com/wire/story/TWB19980529S0018> May 29, 1998, extracted 3/18/01.

^{ix} Khanh T. L. Tranh. “In the Latest Arcade Craze, People Demonstrate Their Fancy Footwork,” Wall Street Journal. <http://www.DDRfreak.com/Press/WSJ%20DDR.html> Aug. 16, 2000, extracted 3/5/01.

^x <http://www.DDRfreak.com/Press/WSJ%20DDR.html>