Givin' You More of What You're Funkin' For: DJs and the Internet

Elizabeth F. Churchill

Yahoo! Research | churchill@acm.org

What do British neurologist Oliver Sacks and George Clinton, one of the godfathers of funk, have in common?

They both believe in the fundamental importance of music to humans.

Sacks believes that humans are neurologically wired for sound and tells us that music occupies more areas of our brain than language does. In other words, humans are a musical species. Movement to a beat is apparently exclusively human; despite their complex communicative abilities and rich social organization, apes and chimps are not going to set up discos anytime soon.

George Clinton is associated with the force of funk and its potential for cultural healing. In 1970 he and Funkadelic released a vinyl masterpiece that calls for "One Nation Under a Groove."

That said, I have been known to wish harm and maiming upon neighbors who play death metal at three in the morning.

Designers, filmmakers, and marketers know all about the emotional power of music. Music sets the psychological and affective tone for scenes in films. Music can motivate and deflate. It can get you running faster on a treadmill, and when combined

with monitoring technologies (as with the brilliant Nike shoes plus iPod combination), it can literally change the way you relate to your body. Equally, a dirge can suck the life out of you. Music can make you cry when a long-forgotten bittersweet memory is pricked. Given we are wired for music, it is not surprising that tiny children bop around to anything with a beat.

Interior designers routinely employ music for social-engineering purposes: to make us hurry up a meal, shop longer in the mall, or pump more iron. Most dramatically, the playing of classical music apparently correlates with a reduction of hooliganism in railway stations and bus terminals—although at the other end of the spectrum, Stanley Kubrick's film "A Clockwork Orange," famously coupled Beethoven with scenes of ultra-violence.

The effect of music is not all unconscious, visceral, or neurological. Like Clinton, cultural theorist Theodor Adorno believed that music can foster critical and political consciousness because it can challenge assumptions and normal ways of thinking (clearly Adorno did not listen to most pop lyrics, which are anything but revo-

lutionary). For adolescents and for "grups," those grown-ups who can't quite admit they are no longer 18, or as the *New York Times* described this demographic, "hipsters who breed," the music you like is a sign of cool—a sign that you have a finger on the cultural pulse.

Perhaps the people who know most about music and its cultural and social power are DJs. The craft of the DJ as human jukebox has evolved over the course of decades. DJs have been selecting and playing music for mood since the beginning of radio, but they've evolved into musicians and performers who create new genres of music and new forms of musical performance.

According to the DJ History website (www.djhistory.co.uk), the first in-person, live, at-the-venue DJs were folks who entertained the troops in WWII. Although perhaps some were known for their personalities, these DJs were not stars like the DJs we know today—DJ Shadow, Chris Cox, Sasha and John Digweed, Armin van Buuren, or Tiësto. In terms of these modern DJs, consensus has it that the cult of the DJ as artist-performer started in the 1970s with a guy called Francis Grasso. Grasso was the first to use headphones,

to achieve slip-cueing and beat-matching to create a continuous blended sound from track to track—and keep the dance floor jumping and writhing.

I suspect Grasso was also the first DJ whom people liked to watch perform his craft. These days events are held to show off the performance, the art, of DJing. Instead of dancing, the crowd orients to the DJ, standing like rows of sunflowers facing the sun. As stated in the 2001 Doug Pray documentary “Scratch,” “DJs manipulate time and sound with their hands.” And as they manipulate time

and sound through ever more sophisticated technologies, they also manipulate our mood.

DJ/club culture is in some ways synonymous with the mixing of technology, music, and art. But what is the role of the Internet in this world?

Unsurprisingly, all good DJs worth their salt have websites. And MySpace accounts. And Facebook presences.

Internet music search also has its place. As with most artistic ventures, the obscure has an allure; finding an obscure track that can be reborn as a break in a mix is part of the practice of being a really good DJ. Online search is a cheap analogue, the couch-potato version of “crate digging”—that is, checking record stores, flea markets, or thrift shops for second-hand music on vinyl.

For us listeners and fans, we all know the Internet is about buying, ripping, and sharing music. If you haven’t heard of an MP3, and/or heard an aspiring band’s tracks on MySpace, and/or shopped in the iTunes store, and/or listened to Internet radio, and/or listened to a music podcast, and/or watched a music video on YouTube, and/or heard all the grumblings about music and copyright and the Internet—well, you must be living under a rock. And then there are audio podcasts and video performances and “battles” in which the fleet-fingered of the DJ world compete and entrance us.

But beyond that, my colleagues Ayman Shamma, Matt Fukuda, and Nikhil Bobb and I have been looking at how DJs are also using live synchronous webcasting connections to reach

and connect with new audiences. Yahoo!’s experimental video broadcasting platform, Y!Live, was launched on February 6, 2008. With Y! Live, anyone with a webcam can stream live video of themselves to anyone who wants to tune in and watch/listen. There are features for personalizing information about yourself as the broadcaster, and there are options for social features, including a chat room. Unlike other similar services, viewers can also webcast. Given this ability for the viewer to stream live, there is a nice blurring of the traditional distinction between one to many and many to many. If you want to broadcast, you sign up for a channel, set up your camera, and off you go: You’re streaming live.

Webcasting in general is not new; some claim the first radio station in the world to broadcast its signal over the Internet was WXYC, at the University of North Carolina at Chapel Hill on November 7, 1994. Wikipedia tells us that the growth of webcast traffic has roughly doubled, year on year, since 1995 ascribing this pattern of increase to the uptake of broadband penetration. Reports state that the Live8 (AOL) benefit concerts in July 2005 claimed approximately 170,000 concurrent viewers (up to 400 Kbit/s). That same month the BBC saw similar numbers (10 Gbit/s) on the day of the London bombings. Virtually all major broadcasters have webcasts; even the Vatican has a webcast. And I hear that the funeral industry is starting to rake in profits by providing webcasts of funerals.

Webcasting technologies are extremely easy to use and

► Y!Live users include DJs, who interact with their audience via webcams and chat while broadcasting live music.

readily accessible. That is probably why most noncommercial webcast content (or Web TV) is tripe—and some of the commercial stuff is obviously tripe too. Personally, I do not count the “ferrets channel” in this negative judgement; those creatures clearly know how to have a good time. But, frankly, I do wonder why so many guys who can afford the technologies to webcast cannot afford shirts.

But there are also more and more skilled performers seeking out new audiences, hoping for a global reach for their craft.

Certainly, the DJs we talked to see webcasting as offering new opportunities for reaching new audiences. As someone who has been actively researching computer-mediated communication for more than a decade, I’m fascinated by the use of webcasting to perform live shows. That’s in part because every DJ I have talked to who performs live shows (and even radio DJs, to a certain extent) talks about how they “read” the crowd, garner a sense of the energy in the place, and manipulate its ebbs and flows with music to amp up the crowd, maintain a pace, or slow it down. DJs seem to see themselves as the puppet-masters of crowd energy, playing with the dynamics of movement on the dance floor. But this takes close monitoring. Arguably, it takes co-presence—being there to see and feel the energy. So how does this happen with a webcast? Is it possible?

In the world of videoconferencing, we have been dealing with connection and communication for an age, but the art of creating a DJ show through webcasting brings a different set of

challenges. Audience members come and go; there is no organizational or relationship imperative to stay engaged, the way there is in a work meeting. Most of the excellent work on videoconferencing in education or corporate settings therefore has little bearing on the situation in which DJs find themselves. The bulk of this work describes a technology that has a role in a very differently prescribed set of social relationships.

However, some ideas that are obviously of relevance involve how small features in simple interfaces allow us to create a sense of the presence of others. A video feed clearly and explicitly shows that someone else is there and what they are up to—hence the success of video cameras for surveillance. But more subtle cues can also tell us someone is watching or has been there. In the physical world this may be the sound of a footfall or the depression in a cushion. Online, there are the sounds of someone signing on or leaving a chat. Textual changes to a webpage or a wiki indicate someone has been there and left a mark.

It is amazing how these small, subtle cues make someone who is very far away feel close to you. This sounds stupid until you have experienced it. I know how a line of text on a screen that reads “1 view” can feel like a touch on the shoulder. The first time I saw the “1 view” indicator on a picture I had posted on Flickr, I felt like someone had reached through the computer screen and touched me. In a flash, I went from comfort zone to twilight zone—someone out there on the Internet was looking at the picture I uploaded

30 seconds ago. And in that moment I thought: I don’t know who that someone is or why they are looking at my picture. I felt oddly exposed, though clearly that ghostly touch was from someone far away.

Humans are strongly attuned to registering the slightest of cues. And we will ascribe meaning to those cues. The most abstract indicators become signs with potential for rich social meaning. It is perhaps this tendency that ensures the continuing financial success of horoscopes, crystal-ball gazing, and the reading of tea leaves.

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IBM researchers Tom Erickson and Wendy Kellogg have spent some time looking at these kinds of minimal visual cues in interfaces that signal someone is there and possibly available for conversation—or perhaps just idly lurking. These simple visual representations create what they call “social translucence.”

In this world of the webcast, it seems that view counts substitute for watching the crowd. View counts turned out to be really important to every DJ we talked to. A higher view count signifies a larger crowd, even if that crowd comprises a bunch of individuals sitting on their sofas or at their desks all over the planet. DJs closely monitor the audience cams for the movement of a head in time with the beat, for a look of close attention, and for the appearance of a familiar face. Chat logs are monitored for comments, requests, and conflict. Chat lets people know what is being played. And all this while slipping from one track to the next.

There is a reciprocal relationship of looking in Y!Live. That is, the viewing is two ways. DJs watch us closely for response, for engagement. We watch them for technique, for the performance of their craft, and because we want them to recognize us as one of their fans. When DJ Doolow waved to me during one of his shows, it felt like a friend had given me a hug.

It is very difficult for an audience member to get a sense of the crowd because the crowd is pretty hampered in the ways in which they can interact. It is difficult to sidle up to someone and impress them with your

moves when you are sitting in an office chair at your computer. Most of the people who perform and/or watch are webcasting from their living rooms and kitchens, making for an odd array of domestic scenes conflated into one screen and an odd kind of club setting.

These mechanisms all seem too fragmented, and too crude to create closeness—slim ways of being in touch and reaching out to the audience. But they work... sort of. And although crude now, they point to the future of connected performance.

As designers we are not yet sure how to create co-presence and create a crowd out of a disparate group of individuals with webcams, their worlds connected only by the fact that their video feeds are collated onto one webpage. However, I think these performances are a way for us to think about the construction of audience and the creation of crowd.

Social interaction researchers warn us not to take the ways in which people interact face to face as some kind of benchmark or gold standard of human-human interaction, suggesting that mediated communication is fundamentally different. Yes, but from my perspective it is a good starting point. Designing to help DJs create really compelling and effective performances using webcasting technologies forces us to think about the ways in which social feedback is or should be built into these two-way broadcast technologies. So I ask: Is webcasting going to change the DJ performance? Probably not as much as the slider or the mixing desk did.

But perhaps remote gigs are the future. So next, perhaps we could connect clubs in Moscow with clubs in Madrid and San Francisco and flirt with folks from far-flung places. And looking at my friend's 52-inch high-definition TV (and there are some 73-inch ones out there ostensibly aimed at the consumer market), I am wondering if I could host a party in my living room with John Digweed spinning. And in his turn, he could be looking at a stack of monitors of all the living rooms that are listening in, worldwide. But if I were John, under those conditions, I'd insist all those guys buy shirts.

We are not at the point where soloists can play together over the Net. But the DJs we talked to are pushing the edge of what the technology can do. What can DJs webcasting tell us about how to create truly interactive TV?

And while I am flying high with eutopian goodness, could webcasting musical performances bring the world together? Could we explore the differences between cultures and their musical proclivities? Could we get one planet under a groove?

ABOUT THE AUTHOR Dr. Elizabeth Churchill is a principal research scientist at Yahoo! Research leading research in social media. Originally a psychologist by training, for the past 15 years she has studied and designed technologies for effective social connection. At Yahoo, her work focuses on how Internet applications and services are woven into everyday lives. Obsessed with memory and sentiment, in her spare time she researches how people manage their digital and physical archives. She rates herself a packrat, her greatest joy is an attic stuffed with memorabilia.