

ARTISTS' STATEMENTS

FREE PLAY MEETS GAMEPLAY: iGOTBAND, A VIDEO GAME FOR IMPROVISERS

Joshua Pablo Rosenstock, Department of Humanities and Arts, Worcester Polytechnic Institute, 100 Institute Road, Worcester, MA 01609, U.S.A. E-mail: <jrosen@wpi.edu>.

ABSTRACT

The author presents an experimental musical video game called iGotBand. Fans are central to the game's narrative, capturing a feedback loop in which the audience shares responsibility for performance.

Recently, musical video games like Guitar Hero have burgeoned in the pop-cultural zeitgeist. Although these simulations democratize the experience of performing music, they enshrine the songs upon which they are based as immutable "classics"; participants' actions are limited to mimicry. I propose an alternative path for musical video games, extending these exhilarating play experiences into the equally thrilling creative realm of improvisation. My projects refocus music games from specific musical outcomes to open-ended processes that attempt to balance the goals of gameplay and creative musical play.

iGotBand is an experimental video game produced in collaboration with four undergraduate Worcester Polytechnic Institute students [1]. The basic mechanic—the game's system of player actions, causal relationships and feedback—consists of a series of animated avatars, each of which is accompanied by a row of floating colored blocks, representing suggested note sequences and corresponding to the game controller's colored buttons (Fig. 1). If a player plays the series of notes "requested" by a particular avatar, that avatar is "captured" and becomes a "fan." A fan has a finite attention span and will periodically request its own notes. If a fan's demands are not met, it will lose interest and wander away. As the avatars proliferate, the players must increasingly choose between the competing demands of capturing new fans or maintaining existing fans. The player can play a requested sequence of notes in any rhythm or may intersperse other notes of her own choosing.

Play as Freedom, Games as Rules

Roger Caillois divides play into opposing forces, *ludus* and *paidia*. *Paidia* denotes childlike free play—exuberant,

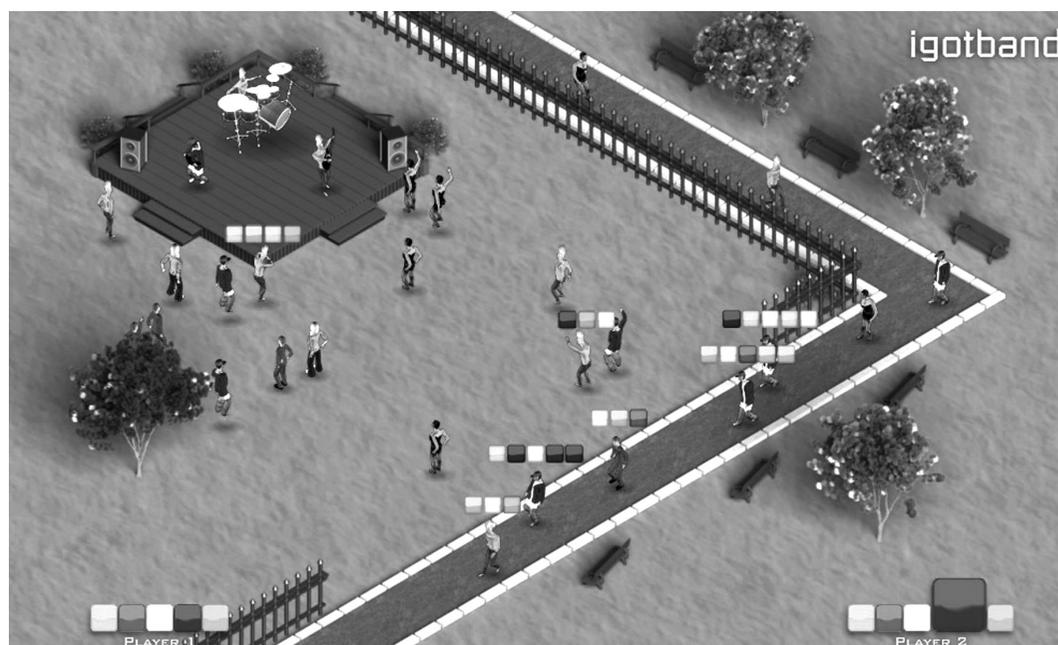
tumultuous and spontaneous, although readily carried to unruly excess [2]. This is an equally apt definition for free improvisation. The essential view of play as freedom is important to improvisers, who associate the act with unfettering not only musical but also social and political boundaries. *Ludus* is the contrasting impulse of ordered rules, manifest in improvisation within established genre boundaries and in the 20th-century literature of instruction-based or indeterminate compositions. Paradoxically, *ludus* constraints grant the player agency, allowing choice-making to occur.

As a formal game, iGotBand typifies *ludus*, although its graphic-notation scheme balances freedom with constraint. These pre-composed sequences of colored blocks form a skeletal structure that the player freely ornaments, as a bebop improviser would interpret a standard.

Audience

The competing fans in iGotBand dramatize a musician's fundamental choice between predictability and novelty. "When . . . musicians note a positive reaction from the public, they are tempted to reproduce the effect which provoked

Fig. 1. iGotBand screenshot, 2009. Players perform sequences of notes to win fans. (© Joshua Pablo Rosenstock)



this reaction” [3]. By making the fans central figures in the game’s narrative, iGotBand acknowledges this feedback loop, wherein the audience shares responsibility for the performance.

Winning

Of all the conceptual issues we grappled with in creating iGotBand, the most contentious was the question of winning. As a formal game, it by definition needed a win condition, but we struggled to find a technological means for quantifying a player’s performance. My frustrated students fell back on the Guitar Hero paradigm, incorporating a scoring system that tracked percentages of “correct” notes played, a decision that obviously fails to account for the improviser’s novel contributions.

Is winning and losing relevant to improvisation? Certainly an element of competition exists, such as between “battling” soloists. Much of the *frisson* of watching an improvisation comes from its uncertainty—“the risk of failure, or complete collapse, is everywhere present” [4]. However, one of the prerequisites of improvisation is to accept unwanted outcomes.

Conclusion

Although iGotBand effectively marries improvisation to the formal aspects of a guitar game, there remain differences between game-playing and improvised-playing, most notably in the issues associated with winning. One direction for future experimentation would expand the role of audiences, leveraging social networking technologies [5]. Overtly competitive models of improvisation such as Theatresports remind us that improvised performance thrives in a variety of different contexts, even if the win/lose binary is not easily reconciled with the musical improv tradition.

References and Notes

1. Shelli Clifford, Tim Cushman, Brian Hettrick and Alex Schwartz.
2. Roger Caillois, *Man, Play and Games* (Urbana, IL: Univ. of Illinois Press, 1962) pp. 13, 27.
3. Derek Bailey, *Improvisation: Its Nature and Practice in Music* (New York: Da Capo, 1992) p. 44.
4. John Corbett, “Writing around Free Improvisation,” in Krin Gabbard, ed., *Jazz among the Discourses* (Durham, NC: Duke Univ. Press, 1995) p. 222.
5. For example, see <leaffrombone.smule.com>.

Received 1 January 2010.

Joshua Pablo Rosenstock is a multimedia artist, musician and educator based in Boston. He employs an ever-expanding variety of

analog, digital and craft techniques to create dynamic intermedia works that incorporate moving images, sound, sculptural installation and interactive performance. He earned a B.A. in Visual Art & Semiotics from Brown University and an M.F.A. in Art & Technology from the School of the Art Institute of Chicago and is currently an assistant professor of Interactive Media and Game Development at Worcester Polytechnic Institute.

WHISTLE PIG SALOON: PERFORMING TECHNOLOGIES

John Robert Ferguson (musician), Kingston University, Coombehurst House, Kingston upon Thames, KT2 7LB, U.K. E-mail: <john@johnrobertferguson.com>. Web site: <johnrobertferguson.com>.

Robert van Heumen (musician), STEIM, Achtergracht 19, 1017 WL Amsterdam, The Netherlands. E-mail: <robert@steim.nl>. Web site: <hardhatarea.com>.

ABSTRACT

The authors discuss their practice of technologically mediated improvisation while exploring questions about the relationship of performers to technology.

Among the multitude of connotations of the notion “performing technologies,” we would like to focus on the following: Are we performing the technology or is it performing us? As the duo Whistle Pig Saloon, we compose systems and situations from which a creative work can emerge. The work is improvised, but to what extent are we accountable for it?

When artistic materials are recognized as potential controllers of a situation, and conditions for collaborative creative emergence are fostered, notions of negotiating inertias, setting processes in motion and intervening within established trajectories are foregrounded. For Whistle Pig Saloon, in querying the role of non-linearity, instability and unpredictability, the facilitation of cracking and fracture (both real and metaphoric) is a productive and essential process in the pursuit of creative orientation. Thus, in exploring the dialectical relations between precision and indeterminacy, investigating thresholds of resistance and malleability, then engaging via a process of active filtering and restraint, a collaborative trajectory is established. This can be considered in the light of what physical computing expert Dan O’Sullivan calls “intelligence amplification” [1], which focuses on the human for creative spark.

Rather than mimicking the autonomy of humans, then, we aim to use technology to support and facilitate. Our approach resonates with the prevailing ideology at STEIM [2], which seems to focus on the remapping of touch and physical exertion, as well as on conjuring a phantom auditory presence that is at once very real and yet also imagined. This might be summed up as “fantastic,” the etymological root of which can be traced to fantasy or “illusory appearance” [3].

During embodied activity, illusion and interpretative legibilities frequently collide. For example, when one is cycling along a narrow and uneven track, a rough surface texture might redirect the flow of the bike, yet it is possible to remove one’s hands and steer around corners or navigate relatively large obstacles, negotiating velocity via balance, accrued momentum and flow. These notions resonate strongly with technologically mediated improvised music making. Koestler suggests that “most of our thinking, planning and creating operates in imaginary environments,” and because the position at which perception lies between the real and the imagined is a “matter of degree,” all our perceptions are “coloured by imagination” [4]. While not claiming a spirit lurking within, Whistle Pig Saloon searches for life-like resonances with which to interact, therefore fantasy and folklore may provide a useful metaphor, and we suggest “dragon-slaying” as an appropriate metaphor for performing technologies.

Figure 2 was taken by Thor Brødreskift in the moment of near-silence at which the ending of the concert emerged. This photograph immediately followed a loud and intense improvisation, which might well have continued without the audible camera click that occurred in a short moment of silence. With the camera click, that was it, done, no question that we could play any more.

The improviser has to be like a man walking backwards. He sees where he has been, but he pays no attention to the future. . . . Very often an audience will applaud when earlier material is brought back into the story. . . . They admire the improviser’s grasp, since he not only generates new material, but remembers and makes use of earlier events that the audience may have forgotten [5].

In the case of technologically mediated improvisation, the word “grapple,” as opposed to “grasp,” might seem to



Fig. 2. Whistle Pig Saloon concert at Borealis 2009, Bergen, Norway. (Photo: Thor Brødreskift. © Robert van Heumen.)

better represent the struggle of performing technologies. It should also be noted that, in the context of live sampling practices, in blurring any line perceived between deterministic processes and those of an active agent, far from deliberately incorporating “earlier events,” a performer may simply happen upon previous material and be as surprised as the audience by its reemergence. Thus, the dual connotations of performing technologies are again foregrounded, raising the question of who (or what) is performing who (or what). In the metaphor of the improviser walking backwards, we visualize ourselves throwing objects and past experiences over our shoulders and into the future, to possibly re-encounter these artifacts there. This deliberate and confident disavowal of a forward-looking ocular standpoint we perceive not as an impoverished predicament but as the embrace of a perspective informed by Gadamer’s “effective historical consciousness” [6], as for an improviser an intimate connection to the past is essential in reconfiguring the future. Hence, “beyond episodic improvisation,” Whistle Pig Saloon emphasizes “the value of revisiting and re-appropriating a previous moment” [7].

References and Notes

1. Dan O’Sullivan, *Physical Computing: Sensing and Controlling the Physical World with Computers* (U.K.: Premier Press, 2004) p. xviii.
2. Studio for Electro Instrumental Music, <www.steim.org> (where the Whistle Pig Saloon collaboration was developed).

3. Douglas Harper, *Fantastic*, Online Etymology Dictionary, 2001, <www.etymonline.com/index.php?term=fantastic> (accessed September 2009).

4. Arthur Koestler, *The Ghost in the Machine* (London: Hutchinson, 1967) p. 103.

5. Referenced as Keith Johnstone, *Impro: Improvisation and the Theatre*, p. 116, in Gary Peters, *The Philosophy of Improvisation* (Chicago and London: Univ. of Chicago Press, 2009) p. 18.

6. Robert J. Dostal, “Gadamer’s Philosophical Hermeneutics,” in Robert J. Dostal, ed., *The Cambridge Companion to Gadamer* (Cambridge, U.K.: Cambridge Univ. Press, 2002) p. 3.

7. Robert van Heumen and John Ferguson, *Whistle Pig Saloon* (Portugal: Creative Sources Recordings, 2009), extract from CD liner notes.

Received 1 January 2010.

John Ferguson configures the electric guitar as a site for multiple simultaneous points of interaction and queries the iconic cultural status of his instrument via feet, fingers and feedback.

Robert van Heumen is an electronic musician performing semi-structured improvised music using STEIM’s live sampling software LiSa and various hardware controllers.

IN STRANGE PARADOX: RATIONALIZING IMPROVISATION

Nick Fox-Gieg (video artist), Department of Design, 4008 TEL Building, York University, 4700 Keele Street, Toronto, ON M3J 1P3, Canada. E-mail: <nick@fox-gieg.com>.

Margaret Schedel (composer), Music Department, 3304 Staller Center, SUNY

Stony Brook, Stony Brook, NY 11794-5475, U.S.A. E-mail: <gem@schedel.net>.

ABSTRACT

The authors discuss improvisation in music and accompanying real-time graphics, providing historical examples and a discussion of their performance group. In *Strange Paradox*.

Each period of a civilisation creates an art that is specific in it and which we will never see reborn. To try and revive the principles of art of past centuries can lead only to the production of stillborn works.

—Kandinsky

Improvisation in music and improvisation in real-time graphics make an odd yet compelling couple. The former, obviously, is older than recorded history; the latter can arguably be precisely traced to the debut of the U.S. Navy’s 1951 Whirlwind computer. Graphical improvisation can also be traced to its roots in visual music, a groundbreaking early film genre of abstract animations tightly choreographed to music. In the 1930s, filmmakers such as Oskar Fischinger [1] and Len Lye [2] were pioneers of this approach; in the 1950s, Norman McLaren [3] took these methods a step further, becoming a composer and animator by creating sophisticated early electronic soundtracks to accompany his images. From the beginning, the ability to recreate visual music in real time was a paramount goal of these artists—Fischinger constructed a series of “color

organs,” optical devices that generated visual output in response to innovative control schemes; one method used a thin sheet of rubber through which a performer pressed hands and other objects. The few surviving machines are still used in performances today.

However, while standout individual accomplishments occurred in the analog era, the formidable economic barriers to participation prevented the Fischinger color organ’s widespread adoption. It was the contemporary introduction of inexpensive computer technology that allowed this kind of improvisation—by both musician and filmmaker—to be adopted as a practice by an entire community of performers. An individual color organ is a fascinating museum piece, but as software in the hands of millions of people, it can become capable of virtuosic performances. In visual music, it can be argued that we have now reached this tipping point; artists Bob Ostertag and Pierre Hébert, among others, are beginning to redefine the field in terms of living cinema.

Animation is a subset of living cinema. The special-effects principles that make animation possible were available to artists as far back as 1892 [4], but up until the early 1900s they were largely applied only to live-action films only. And animation’s roots go still further back, to *cantastoria*, an Italian theatrical term encompassing any live performance that tells a story with images [5]. The use of projected images was specifically introduced to Europe by

missionaries returning from 17th-century China; Kircher and Huygens are perhaps the best-known Western pioneers of the technique. And it is from this tradition, not the complementary but separate discipline of theater, that animation springs. Twentieth-century animation pioneers such as McKay first created their work not in the seclusion of a studio but in front of a live audience in vaudeville halls—and they were known, rather impressively, as “lightning artists” [6].

By this point in the development of visual music, a modern lightning artist now has a repertoire of standard techniques practical for live performance. The combination of a community of performers practicing with a sufficient number of variables with sufficient computer power gives us amazing results—not just real-time control, but the extreme degree of precise and intuitive control that an experienced musician can achieve when working with a musical instrument in which they have chosen to specialize.

Our performance group, In Strange Paradox, uses data captured from a musical performance to shape visual elements, while data captured from visual performance shapes musical elements. Both of us simultaneously improvise new material, control processing on the other’s medium and react to the processing occurring. This cross-modality is now possible because of the substantial work done over the past 10 years to create systems capable of capturing and analyzing gestures in

real time. In our project, a cellist uses a K-Bow [7], which has eight sensors, the values of which are communicated via OSC: x , y - and z -axis accelerometers, hair tension, grip pressure, bow location on two axes (frog to tip and bridge to fingerboard), as well as tilt. Using this data in combination with audio tracking we can control video processing in real time (Fig. 3) as a video artist draws using a Wacom tablet. For example, the grip is used to lengthen the decay time on the video. The data captured from the drawing tablet, including two-dimensional absolute position sensing of a stylus, pressure, two-dimensional tilt and switches on the side of the stylus, is used to process audio created by the cellist and also drive a synthesis engine. For example, the x axis position on the Wacom tablet controls the wet/dry reverberation mix on the cello signal. This cross-modality creates a true form of intermedia that would not have been possible even 20 years ago.

Improvisation allows us to engage in immediate dialog with each other during the performance. To paraphrase Pauline Oliveros, we must let go of each moment while understanding the implications not only of our own performance but also of the interplay between the performances, creating the visuals and music as they emerge into being.

References

1. William Moritz, “The Dream of Color Music, and Machines That Made it Possible,” *Animation World Magazine* 2, No. 1 (April 1997).

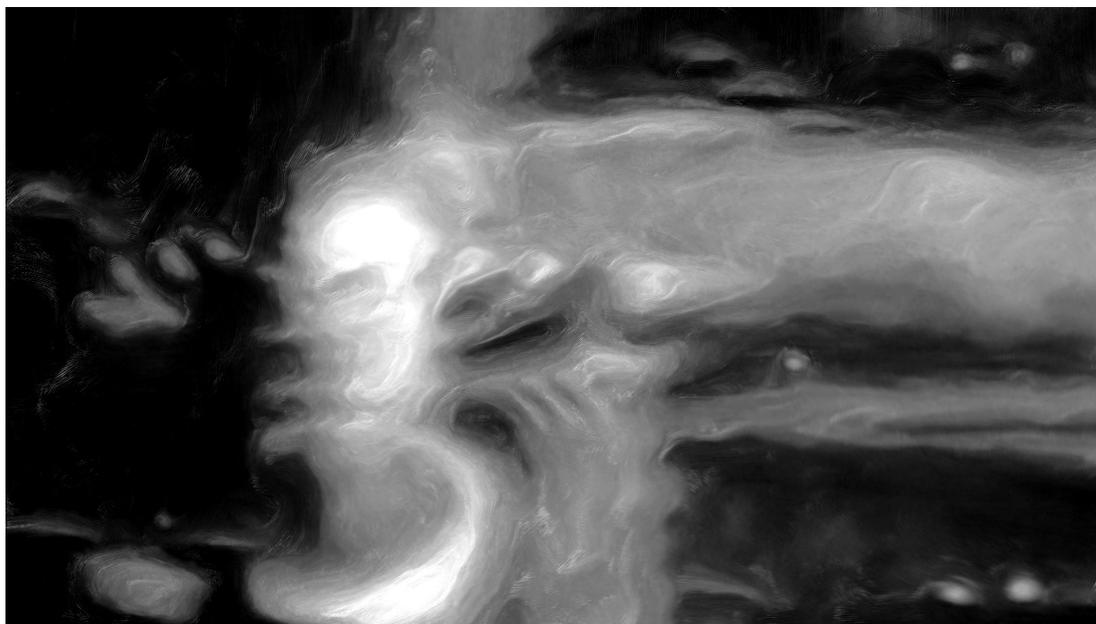


Fig. 3. Still from video of In Strange Paradox performance. (© Nick Fox-Gieg)

2. William Moritz, "The Film Strip Tells All," *Animation World Magazine* 3, No. 6 (September 1998).

3. William Moritz, "Norman McLaren and Jules Engel: Post-Modernists," *A Reader in Animation Studies* (London: John Libbey, 1998).

4. David Robinson, *From Peepshow to Palace: The Birth of American Film* (New York: Columbia Univ. Press, 1997).

5. Victor Mair, *Painting and Performance: Picture Recitation and Its Indian Genesis* (Honolulu: Univ. of Hawaii Press, 1997).

6. John Canemaker, *Winsor McKay: His Life and Art* (Harry N. Abrams, Inc., New York 2005).

7. Keith McMillen, "Stage-Worthy Sensor Bows for Stringed Instruments," Proceedings of the 2008 New Instruments for Musical Expression Conference,

Genoa, Italy (2008) p. 347. See <www.keithmcmillen.com>.

Received 1 January 2010.

Margaret Anne Schedel is a composer and cellist specializing in the creation and performance of ferociously interactive media. An Assistant Professor of Music at Stony Brook University, she serves as Co-Director of Computer Music and is a core faculty member of cDACT, the consortium for digital art, culture and technology. In 2010 she chaired the International Computer Music Conference, and she is working towards a certificate in Deep Listening with Pauline Oliveros. She sits on the boards of the BEAM Foundation, EMFIn-

stitute, ICMA, NWEAMO, Organised Sound and 60x60 Dance.

Nick Fox-Gieg is an animator based in Toronto. His film The Orange won the jury prize for Best Animated Short at SXSW 2010. His shorts have also been shown at the Ottawa, Rotterdam, and Zagreb festivals, at the Centre Pompidou, and on CBC TV. He's performed his live sound and video works at the Paradiso in Amsterdam and the Redcat Theater in Los Angeles, and was a 2006 Fulbright scholar at the Royal Conservatory of The Hague. Fox-Gieg received his MFA from the California Institute of the Arts in 2004, and his BFA from Carnegie Mellon University in 1999.