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PIGS
Percussive Image Gestural System

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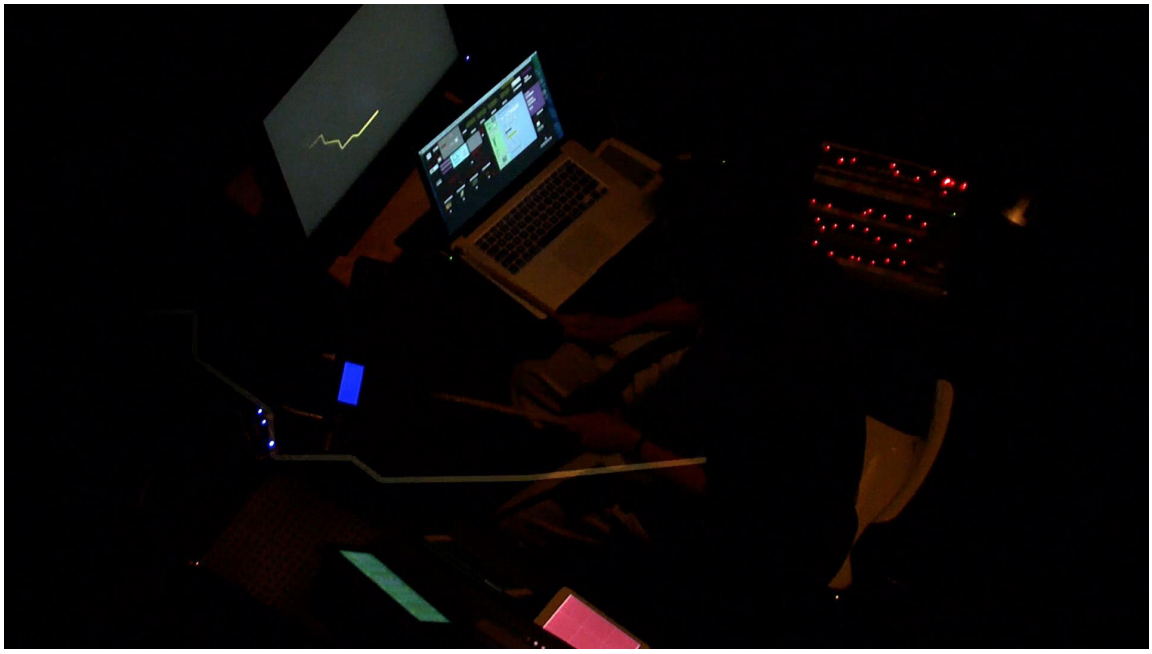
Abstract

PIGS (Percussive Image Gestural System) is an instrument created by Amy Alexander for improvised visual performance with musicians. It focuses on layered visuals that are not bound to traditions of rectangular frames and “movie” structures — and on developing a performable instrument suited to improvisation. PIGS uses live gestural data as improvisational elements to create visual forms. Gestures can be used independently, or repeated with algorithmic variation through the use of drum interfaces to create visually rhythmic structures. To facilitate improvisation of video as a rhythmic “instrument,” PIGS incorporates a variety of percussive inter-



faces including MIDI drums, iPads, and Leap Motion. Currently Alexander collaborates with musician and sound artist Curt Miller, who has created a software instrument in parallel with PIGS in which he combines live clarinet with real-time processing of recorded source material.

PIGS aims to enable a performer to improvise visuals as they might on a musical instrument: in this case, to create fluid forms rather than rectangular, movie-like images, which seem to us anathema to perceptions of liveness for both performer and audience. So PIGS approach differs from that of many visual instruments in that it uses video less like an image and more like paint being applied performatively. This comparison is loose however, as the performative approach most resembles a set of guiros and drums: the video “paint” is scraped and struck in various overlaid rhythms while the drums trigger drawings of varying durations. This arrangement of gestural and percussive interfaces facilitates performance of the layered, rhythmic structures.

Early and mid-twentieth-century direct on film animators like Len Lye, Evelyn Lambart and Norman McLaren drew directly on strips of film to create moving abstract forms. Other abstract filmmakers of that era, including Oskar Fischinger and Mary Ellen Bute, developed strategies for using repetition of forms and movement to create temporal and spatial visual rhythms on film. PIGS borrows from both of these traditions, applying them to live performance. But PIGS uses the time-based gesture itself, rather than the static form, as its source of repetition and visual rhythm.

Although using relatively traditional percussive interfaces promotes immediacy and improvisation, the process by which the PIGS instrument produces the resulting visuals is algorithmic. Each gestural stroke is displayed live but also functions as something of a sample, which can be replayed with modifications until replaced with another. Each gesture is composed of an array of points: each time these points are replayed they can be used to display new content, to combine with other data to form new patterns, (or for potentially any other arbitrary purpose.) Thus, repetitive structures are facilitated, as new material is continually produced via a process analogous to both “theme and variations” forms in music and looping structures in software design.

Miller’s software patch treats the playback of sound algorithmically as well, specifying parameters for the software to trace through sound files in defined textures, with undefined content allowing for both improvisational control and algorithmic variation. In addition to this multi-textured software layer, Miller improvises on clarinet and a feedback system using clarinet and talk box introducing the instrumental sound into the algorithmic layers and allowing for the electronic sound to feed back into the clarinet via the talk box. The resulting system has a flexibility that is geared toward the challenges of reciprocal improvisation in a mixed modal (audio and visual) collaborative ensemble.

Since PIGS is designed to be performed with arbitrary video material, Alexander has created a variety of

"compositions" for PIGS, often focusing on selections of various social media subcultures of self-made YouTube performers. She has recently developed an "algorithmic curator" option for PIGS, in which newly uploaded YouTube videos focusing on designated themes can be automatically "curated" shortly before the performance, using computer vision and other algorithms to find videos that meet specific characteristics. The algo-curator currently seeks videos that appear to be non-commercial personal narratives, which are normally difficult to find within YouTube. The performers then improvise using a time-based collage of personal global video of the hour -- a contemplation on whether the potential to realize Stan VanDerBeek's 1966 utopian vision of a networked, global video "Culture: Intercom"[1] might lie within the detritus of contemporary social media.

1 "CULTURE: Intercom and Expanded Cinema - Stan VanDerBeek." http://www.stanvanderbeek.com/_PDF/CultureIntercom1,2,3_PDF_LORES.pdf. Accessed 20 Apr. 2018.