

Stanford Laptop Orchestra

The Stanford Laptop Orchestra (SLOrk) is a large-scale, computer-mediated ensemble that explores cutting-edge technology in combination with conventional musical contexts - while radically transforming both. Founded in 2008 by director Ge Wang and students, faculty, and staff at Stanford University's Center for Computer Research in Music and Acoustics (CCRMA), this unique ensemble comprises more than 20 laptops, human performers, controllers, and custom multi-channel speaker arrays designed to provide each computer meta-instrument with its own identity and presence. The orchestra fuses a powerful sea of sound with the immediacy of human music-making, capturing the irreplaceable energy of a live ensemble performance as well as its sonic intimacy and grandeur. At the same time, it leverages the computer's precision, possibilities for new sounds, and potential for fantastical automation to provide a boundary-less sonic canvas on which to experiment with, create, and perform music. Offstage, the ensemble serves as a one-of-a-kind environment and classroom that explores music, computer science, composition, and live performance in a naturally interdisciplinary way.

<http://slork.stanford.edu/>
<http://www.facebook.com/slork>
twitter: @slork

Acknowledgments

The Stanford Laptop Orchestra is made possible by generous support from the Stanford University School of Humanities and is also supported by a CreativeIT grant from National Science Foundation, and would also like to thank our friends and colleagues at CCRMA, Music Department, and Smule.

Stanford Laptop Orchestra (SLOrk)

presents

SLOrktastic Chamber Music 2013

May 2, 2013, Thursday 8 p.m.
CCRMA Stage, Stanford University



Stanford Laptop Orchestra (SLOrk)

Ensemble

Josh Coronado, Victoria Grace, Justin Heermann, Jianfeng Hu,
Jim Liu, George Lu, Nicholas McGee, Reza Payami,
Audrey Proulx, Caleb Rau, Luke Wilson, and Ling-Ling Zhang.

Directors

Jieun Oh and Ge Wang (sabbatical)

Co-directors

Spencer Salazar and Kurt Werner

Drones
Dan Trueman

First performed by the Princeton Laptop Orchestra in 2006, this piece is a quasi-improvisation inspired by the so-called “Risset-Arpeggio.” In the original Risset Arpeggio (Risset 1985), a set of oscillators with low fundamentals (around 60Hz) and primarily high partials are detuned ever so slightly to create beating patterns between the overtones. When synthesized by a single computer, a slowly ascending and descending arpeggio of the overtones emerges. Each player is given a single such oscillator and a mechanism for controlling its overtones and fundamental frequency (within a very small range). The ensemble improvises elements within a group texture, at times attempting to maximize or minimize the beating patterns

Lacoustic
Josh Coronado, Reza Payami, Audrey Proulx

Lacoustic is a piece that is what it sounds like—a combination of laptop and acoustic. The piece features three acoustic instruments, the violin, piano, and guitar, but uses the laptop to enhance these instruments and enable them to generate sounds that they could not create on their own. This piece is divided into four sections. It begins with an excerpt from Beethoven’s “Moonlight Sonata,” and then abruptly changes into a surprising solo on the disklavier. The next section features an other-worldly sounding duet of violin and guitar, manipulated by effects and devices like the e-bow. The fourth section switches back to the disklavier, using a cellular-automata based program controlled in real-time, followed by a grand and chaotic finale.

Untitled II
Jim Liu, George Lu, Nicholas McGee

Our piece, *Untitled II*, is a reflection on randomness and emotions of uncertainty and sadness. Our instruments each embody a different aspect of the complexity and randomness of every action and inaction. The Kinect mediates communication between player and instrument -- as the player draws closer its voice grows clearer, as body position changes the voice conforms. The microphone collects environmental noise, later modulated and fed back into itself. Laptop keystrokes generate a sequence of notes that form a unique voice and trackpad movements change the frequency of an underlying heartbeat biorhythm. That very raw input - corporeal position, noise feedback, and digital input - is the basis of the sound and noise we generate.

Untitled II is divided loosely into three acts: Loneliness, Desperation, and Rejection. As the performance progresses, waves of static dissonance and bright, shotgun synths fade into one another in a long hypnotic spiral. The piece at face value can be likened to a conversation between two individuals, with a distant and erratic third trying to relate. Each voice is highlighted at different times throughout the piece and at times they intermingle to convey the state of randomness.

Take it for Granite
Perry R. Cook

This sonic landscape was mined from recordings of stone sculptor Jonathan Shor’s working of a large piece of granite. The composer recorded Shor’s drilling, placing shims, tapping the shims, and the wonderful sound of millions of years of energy being released as the stones split. The laptop orchestra players manipulate these sounds via a ChuckK program that allows them to change properties of the sounds. Eventually, a rhythmic pattern emerges (the striking) wherein the individual SLOrk players control both texture and synchronization.

Encounter
Justin Heermann, Jianfeng Hu, Ling-Ling Zhang

Encounter, inspired by Steven Spielberg’s Close Encounters of the Third Kind, depicts a tonal portrayal of first contact between humanity and extraterrestrial life. Encounter hopes to portray the confusion, fear, excitement, and uncertainty that might emerge from such a meeting. We utilized a midi pad controller, gametrak controller, laptop sensors, an acoustic piano, and two SLOrk stations in our piece to create a range of contrasts and effects. We hope you enjoy.

Transmission
Victoria Grace, Caleb Rau, Luke Wilson

This piece is characterized by its sounds of machines, both mechanical and technological. Using noises generated solely by computers, this piece creates an evolving conversation between these two intertwined worlds.

Transmission is a word used to describe the passage of data, while the act of transforming marks a change in composition, structure, and character. Listen to the transforming transmission, or “transmission,” and do not be afraid to move with the beat.