The Princeton Laptop Orchestra
Taplin Auditorium, May 17 2008

Dan Trueman and Perry Cook, Directors
Rebecca Fiebrink and Seth Cluett, co-Directors

Sweep
Maja Cerar (violin) and Cameron Britt (percussion)

Take it for Granite

Crystals

'copter

*** intermission ***

Self-Organizing Grooves

PLOrk/Dan Trueman

zero-point

Seth Cluett

ChX

Ge Wang

Etch-a-PLOrk

John Fontein

PLOrk is:
Kevin Chou, Harrison Frye, Max Mamou, Raymond Weitekamp, Brenda Jin, Kathleen Sun, Glenn Snyders, Sam Leachman, Adam Fox, Stephanie Chen, Stephanie Tzeng, Andrew Schran, Ben Wasserman, John Fontein, Yuhwon Lee, Thomas Lieber, Kyle Super, David Zaslavsky, Michael Hammond
Clix
In this piece, human operators type to make sounds, while their machines synthesize, synchronize, and spatialize the audio. Every key on the computer keyboard (upper/lower-case letters, numbers, symbols) is mapped to a distinct pitch (using the key's ASCII representation) and when pressed, emits a clicking sound that is synchronized in time to a common pulse. A (human) conductor coordinates frequency range, texture, movement, and timing.

Self-Organizing Grooves
A PLOrk exercise in musical self-organization. Each player has a program for composing and modifying rhythm and pitch cycles. The network synchronizes these cycles, like a collective heartbeat. The twist is that each player can "spy" on any other player: they can see what their neighbor's cycles look like and steal them if they like. Alas, the stealing is usually imperfect—something always gets lost along the way—so, like the telephone game, the goods get transformed into something new in the process. And who knows who is spying on you, taking your damaged goods and making something else out of them. For this particular performance, we’ve chosen a strategy of self-organization that may yield total anarchy (and hopefully wonderfully beautiful anarchy) but has the chance to cohere into clear musical structures—tunes, grooves, and so on—structures that, like a pile of sand, may at any instant collapse. We don’t really know what’s going to happen but, together, we will find out. Apologies: there is not much too look at during this exercise, so you might want to close your eyes and come along for the ride. Self-Organizing Grooves is a collaborative composition by PLOrk, using an instrument built by Dan Trueman, who also pokes and prods the organism in performance; even anarchy can use a hand!

Etch-a-PLOrk
What does a square sound like? And how do its sonic qualities compare to that of a circle? What about a line? In this piece, you will be given the opportunity to find out, as notes transform into shapes and players transform into painters, literally drawing their music. Manipulating an interface much like the traditional Etch-a-Sketch devices, each PLOrk member can create any object or shape imaginable and hear how such an object sounds. The sound-field is further controlled by the built-in tilt sensors on the laptops, which control harmonic contour as well as timbre. Further, shaking the laptops fast enough will clear the scribbles on the screen, allowing each “painter” to start with a brand new palette. And although traditional metric cues are given by the conductor, most cues indicate the specific shape each player should draw. Watch and enjoy as PLOrk etches away!

Sweep is a concerto for solo violin with laptop orchestra and percussionist. All members of the orchestra perform by waving remote controllers from the Nintendo Wii video game system, informally known as wiiMotes. WiiMotes contain sensors to track acceleration and directional orientation, and Sweep takes advantage of this, exploring the physical gestures of music performance. In Sweep the motions made to play traditional instruments, the violin and percussion, combine with other motions, both choreographic and from daily life, and these motions are applied both to the acoustic instruments and the
wimnotes. An adapted version of Sweep will be one of nine sections of Geers' opera in-progress, Calling, which he is creating with writer Wickham Boyle.

A zero-point is a place from which one might reconstruct something. By beginning with a distribution of pitches from the harmonic series, a unity of sorts, players begin to glissando slowly between frequencies. As the harmonic series begins to assemble itself, players choose frequencies to introduce imperceptibly. The rich and delicate texture which develops is the result of an increasing focus of attention on behalf of the players, but also of the listener, who, over the course of the piece participates in much the same process.

Crystalis
This is a sonic rumination of crystal caves in the clouds, where the only sounds are those of the wind and the resonances of the crystals. It employs two simple custom instruments, the crystalis and wind-o-lin, both making use of the laptop keyboard (which controls pitch and resonance) and the trackpad (which the players "bow" in various patterns to generate sound).

Take it for Granite
This sonic landscape was mined from recordings of stone sculptor Jonathan Shor's working of a large piece of granite to create an augmented lithophone (stone xylophone with electronic acoustics added) for the Quark Park public art project in Princeton. I recorded him drilling, placing shims, tapping the shims, and captured the wonderful sound of millions of years of energy being released as the stones split. The PLOrk players manipulate these sounds via a ChucK program that allows them to change properties of the sounds. Eventually, a rhythmic pattern emerges (the striking) wherein the individual PLOrk players control both texture and synchronization. Thanks to Jon for letting me peer into his rocks, and for working with me on the lithophone for Quark Park. Thanks also to Peter Sodeman and Kevin Wilkes, the two pillars upon which Quark Park was built.
Critics have consistently praised Maja Cerar as a "magnificent violinist" with "breathtaking technique" and "a completely natural musicality," an artist who "listens to her inner self." International media enthusiastically cover her concerts, CD releases, television and radio appearances. Born and raised in Switzerland, she studied violin with Aida Stucki-Piraccini at the Conservatory Zürich-Winterthur, and then in New York with Dorothy DeLay and Kurt Nikkanen. She took master classes with Zakhar Bron, Franco Gulli, Igor Ostrakh and Igor Ozim. Cerar frequently works with composers, has premiered numerous works written for her, and has been coached by Beat Furrer, Uros Krek, György Kurtag and John Zorn. Since her debut in the Zürich Tonhalle in 1991, she has played as a soloist with orchestras in Europe, given recitals with distinguished artists on international tours (Paris, Rome, Ljubljana, Washington, Chicago, New York), as well as at festivals in Europe, including the Davos "Young Artists in Concert," the Gidon Kremer Lockenhaus Festival, the ISCM World Music Days in Ljubljana and the ICMC Festival in Barcelona. Elsewhere, she has performed at festivals in Aspen, Santa Fe, San Diego, Singapore, New York City, and Mexico City, among others. Concurrent with her violin performance career, Maja Cerar earned her Master of Arts and Master of Philosophy degrees in historical musicology at Columbia University, where she is currently completing her Ph.D. with a dissertation on Schubert’s late string quartets. Her repertoire ranges from the Baroque to the present and her stage experience includes performance with live electronics, dance and theater. www.majaracer.com

Reviewers have described the music of Douglas Geers as "...glitchy... keening... screeching... contemplative" (Steve Smith, New York Times), "kaleidoscopic" (Andrew Lindemann Malone, Washington Post), "fascinating... virtuosic... beautifully eerie" (Jim Lowe, Montpelier Times-Argus), "...expertly shown..." (David Cleary, New Music Connoisseur), "...Powerful..." (Neue Zuericher Zeitung), and have praised its "shimmering electronic textures" (Kyle Gann, Village Voice). Mr. Geers has composed in a wide range of musical styles, including classical concert music, pop songs, television and film scores, electroacoustic music. His work focuses on creative utilizations of new technologies and multimedia dimensions, with a continuing emphasis on interactive electroacoustic works. Since August, 2002 Geers has been employed as Assistant Professor of Composition and Director of the Electronic Music Studios at the University of Minnesota (Twin Cities).

In addition to his composition, Geers is co-founder and performer in the electroacoustic trio Sunreed, and is founder of the annual Spark Festival of Electronic Music and Arts, which he directs annually. Please see www.dgeers.com for more information.

Ge Wang received his B.S. in Computer Science in 2000 from Duke University, Ph.D. (soon!) in Computer Science (advisor Perry Cook) in 2008 from Princeton University, and is currently an assistant professor at Stanford University in the Center for Computer Research in Music and Acoustics (CCRMA). His research interests include interactive software systems (of all sizes) for computer music, programming languages, sound synthesis and analysis, music information retrieval, new performance ensembles (e.g., laptop orchestra) and paradigms (e.g., live coding), visualization, interfaces for human-computer interaction, interactive audio over networks, and methodologies for education
at the intersection of computer science and music.

Ge is the chief architect and co-creator of the ChucK audio programming language, and the Audicle environment. He was a founding developer and co-director of the Princeton Laptop Orchestra (PLOrk), the founder and director of the Stanford Laptop Orchestra (SLOrk), a co-creator of the TAPESTREA sound design environment, and a lead developer of audio visualizations such as ndpseek. Ge composes and performs via various electro-acoustic and computer-mediated means, including with PLOrk/SLOrk, with Perry as a live coding duo, and with Princeton graduate student and comrade Rebecca Fiebrink in a duo exploring new performance paradigms, cool audio software, and great food.

Perry R. Cook attended the University of Missouri at Kansas City Conservatory of Music from 1973 to 1977, studying voice and electronic music. He worked as a sound engineer and designer from 1976 - 1981. He received a BA in music in 1985, and a BS in Electrical Engineering in 1986 from UMKC. He received a Masters and PhD in Electrical Engineering from Stanford in 1990. Along with working for companies such as NeXT Inc., Media Vision, Xenon/Chromatic, and Interval Research, he continued at Stanford as Technical Director of the Center for Computer Research in Music and Acoustics, until joining the faculty of Princeton University in 1996, where he is now a Full Professor of Computer Science, with a joint appointment in Music.

Cook has published over 150 technical and music papers, books, and book chapters, and presented lectures throughout the world on the acoustics of the voice and musical instrument simulation, human perception of sound, and interactive devices for expressive musical performance. He has performed as a vocal soloist and as a computer musician throughout the world, and has recorded Compact Discs on the Lyrecore Early Music Series Record Label with the vocal group Schola Discantus, and live electronic music with the group Interface on the Cycling 74 label. He was the recipient of a 2003 Guggenheim Fellowship, to write a new book on the subject of Technology and the Voice. Along with Princeton Music Professor Dan Trueman, Cook is the co-founder/director of the Princeton Laptop Orchestra (PLOrk), which recently received a Digital Learning Initiative grant from the MacArthur Foundation.

John Fontein is a senior in the Music Department at Princeton University. He is also pursuing a Certificate in Computer Science. John joined the PLOrk ensemble his Sophomore year and has stuck with the troop ever since. Tonight's performance of "Etch-a-PLOrk," John's senior thesis project, will mark his 11th performance as a PLOrk member. He hopes to continue performing and composing for the group after graduation as well.

Seth Cluett (born 1976, Troy, New York) is a composer and visual artist whose work includes photography, drawing, video, sound installation, concert music, performance, and theoretical writing. His pieces are an exploration of the role of sound in everyday life. Operating at the boundary between the auditory and the other senses, his work engages sound's unique property to be at once both collectively shared and distinctly
personal.

His work has been shown/performed at the 10th Rencontres Internationales Paris/Berlin, Palais de Tokyo Museum, Théâtre sur le Pavé, and GRM in Paris, the ICA, Mobius Artist Space, MassArt/nonpod in Boston; WPS1/MoMA, The Kitchen, Diapason, Engine 27, Tonic, and The Knitting Factory in New York; the Betty Rymer Gallery at the Art Institute of Chicago, Heaven, Artemisia, and Deadtech Galleries in Chicago; as well as the Deep Listening Space in Kingston, NY amongst others. Seth's work is documented on Errant Bodies Press, Sedimental, Crank Satori, RoxMedia, and Wavelet Records. He has published articles for The Open Space Magazine, Leonardo Music Journal, 30690, Earshot, and the Journal of the Acoustical Society of America. For more information see http://www.onelonelypixel.org

Dan Trueman is a composing performer on both the Norwegian Hardanger fiddle and 6-string electric violin. His duo Trollstilt (with Monica Mogan, guitar) released its first CD of original tunes in 2000 and has performed widely at both contemporary music festivals and folk music festivals; Trollstilt has recently expanded (now including Beth Meyers, viola, and Jason Treuting, percussion) to become QQQ and will release its first CD in the fall of 2006. Dan also plays and teaches traditional Hardanger fiddle music. As an improviser, he performs regularly with interface, an electronic improvisation ensemble. Their first CD, *owork*, was released in early 2001 and their DVD, RECORDING FIELD, H, with guest Pauline Oliveros, was released by the Deep Listening label in 2003. As a composer of concert music, Dan has completed commissions (most of which include him as a performer) for the American Composers Forum (Hardanger fiddle and orchestra), the Society for New Music (electronic chamber ensemble), the Tarab Cello Ensemble (8 cellos), and the American Composers Orchestra, which premiered his piece Traps Released, for strings, percussion and electric violin/laptop, at Carnegie Hall’s Zankel Hall in January 2005. He recently completed an hour-long multimedia piece for Trollstilt and So Percussion, Five (and-a-half) Gardens, which has been performed at the Whitney Museum, the Third-Practice Festival in Virginia, and elsewhere; a CD/DVD of this project was released by So Percussion’s new label Shhh Productions, in conjunction with New Amsterdam Records, in March 2008. In the fall of 2005 Dan and Perry Cook co-founded the Princeton Laptop Orchestra (PLOrk) for which he has composed several works, including a piece for tabla virtuoso Zakir Hussain and PLOrk; PLOrk was recently awarded a major grant from the MacArthur Foundation and will perform a new work by Dan with the American Composers Orchestra at Carnegie Hall in April 2008. Dan is currently working on a new piece for PLOrk, commissioned by Turbulence.org, and pieces for Janus, So Percussion, and his newest trio, post-Post. Dan teaches composition at Princeton University and was recently awarded a Guggenheim Fellowship.