



CCT Weekly July 31- August 6, 2011

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Distributed Composition Tools Enable Sonic Art & Media Concert Called "Perception"

A new art form is evolving that engages sonic art, modern media, technology and quite possibly, you! Sonic art is not necessarily just music. It incorporates all types of sounds, musical and environmental, to create meaningful works of art. Traditional approaches have included: real time digital manipulation of sound, sound installation and sonic sculpture, electroacoustic compositions and audio synthesis comprising ambient music, loops, noise composition, soundtracks for video, minimalism, structuralism, and silence. Things are about to evolve as the art form branches out to include live, significant audience participation.

Jesse Allison, LSU assistant professor of experimental music and digital media in the School of Music and Center for Computation & Technology, was awarded \$30,162 from the Board of Regents for his project, "Perception--a Sonic Art & Media Concert Utilizing Distributed Performance Systems." This project will aid in the development of software tools to enable distributed composition and performance systems and to disseminate the tools created to make the work possible through open source code for the global arts community.

"This is not simply an experimental music project (which would be viable in itself), but something much more profound," said Allison. "Previous Web based art leans toward large scale data visualization/auralization, which the internet is known for. Distributed performance art has been fairly limited in scope with the most advanced efforts falling into virtual world environments--a notoriously limiting environment to program in. Through the efforts of this project, a new distributed/collaborative form of art is just beginning to take shape."

With the development of the new software, Allison will compose "Perception," a large scale media work encompassing live performance from both the Laptop Orchestra of Louisiana and audience participation through mobile devices. The work will be premiered at the Shaw Center for the Arts in downtown Baton Rouge, Louisiana, to help establish Baton Rouge as a center for groundbreaking art.

"Perception" will be a concert length collaborative creation between a trained ensemble and the audience exploring human perception including cognition and the experience of time, through the lens of sonic art. A real-time performance instrument will distribute small parts of its interface to anyone who logs into the Website. Audience performers will be able to make significant contributions to the work, both through traditional Web methods like submitting words and phrases to be immediately incorporated into the sonic environment, to newly developed tools allowing direct triggering of sonic and video events and manipulation of sonic parameters.

"This work represents a significant development in art--a real-time, collaborative performance that is feasible, engaging, and accessible technologically. Distributed performance is severely handicapped by the fragmentation of computer technology into platforms that are rarely compatible. Compound this by the difficulty of distributing an interface to many parties at great distances and coordinating their various responses and you have our current situation--a form of art that is difficult to do anything beyond insipidly simple and explorable by a privileged few. The innovations contained in this project will move a substantial number of experimental artists past this barrier," said Allison.

Jesse Allison received his D.M.A. in Music Composition from the University of Missouri-Kansas City and is co-founder of Electrotap LLC, an innovative firm developing tools for electronic art. His position at the LSU Center for Computation & Technology enables him to explore the evolving relationship between technology and music and pursue new avenues for artistic and sonic expression.

For more information on Allison and this project, visit: <http://avatar.lsu.edu>.

LSU CCT Brings iOS App Training to Campus

As smartphone functionality continues to develop, it's safe to say that the demand for qualified app programmers will create the newest, hottest job market for college graduates.

Beginning August 1st, the LSU Center for Computation & Technology (CCT), in an effort to introduce LSU students to this exciting new IT profession, is hosting a bootcamp of sorts, offering iOS application development training, entrepreneurial tips, and hands-on mobile computing knowledge.

A first of its kind at LSU, the bootcamp targets the transition from portable, medium-scale computing to mobile computing, a change that is inevitable with new technology development. "Students need awareness and education in the mobile computing arena so they can be prepared for this transformation," said Ravi Paruchuri, organizer of the camp and LSU CCT assistant director of research and advanced computing.

The camp begins August 1 and continues through August 12, with 53 LSU students enrolled. After the two week training camp, monthly knowledge-sharing sessions will be held to further students' app development skills, announce technology updates and/or changes, and encourage app development partnerships.

"Development for mobile applications spans disciplines from computer science and engineering to animation and design - graphic, media, sound, and interaction, to name just a few," said Jesse Allison, camp co-organizer and LSU assistant professor of experimental music and digital media in the School of Music and Center for Computation & Technology. "The monthly assembly will not only provide knowledge and feedback, but also serve to connect those interested in mobile app development to inspire apps with more impact. Team programming, in this way, is the model for app development in industry and provides invaluable job-related experience."

"The CCT is excited about the future of this endeavor - exploring new modes of engagement in mobile programming and mobile environments, as the platform reaches an incredible variety of students, potential fields of application, and relevance in a changing digital landscape. Here's looking forward..." said Allison.

"CCT faculty, staff, and student research assistants have developed novel applications of mobile computing -- and even new mobile computing hardware platforms -- for a number of years, within research labs and LSU classrooms," said Brygg Ullmer, associate professor of the LSU Department of Computer Science and Center for Computation & Technology and also a camp co-organizer. "Many of these efforts have been under the umbrella of LSU's AVATAR / digital media efforts, with support from both state and federal research grants."

This iOS applications bootcamp is one way CCT is expanding these activities to engage broader audiences, cultivating enthusiasm, engagement, and economic and workforce development across the full landscape of academic and professional disciplines.

For more information on the LSU Center for Computation & Technology or the iOS Camp, please visit: <http://www.cct.lsu.edu/home>.

CCT Spotlight: Steve Brandt

Steve Brandt is an Adjunct Professor of Computer Science. He is part of the Core Computational Science focus area at the CCT as an IT Consultant.

Steve was born in Arlington Heights, Illinois. He is married and has 2 children, a biological daughter who is 21 years old and attends LSU and an adopted son who is nine years old. "In essence I have two 'only children,'" said Steve.

There are a lot of projects that Steve is currently involved in. They include "The Prickly Pear Archive," a vision of moving scientific journals to an electronic platform; Chess, a DARPA project for new benchmarks to understand the character of HPC; Mojave/Eclipse, development of a new HPC development platform; Northern Gulf Coastal Hazards Collaboratory, and AmieGold, a tool which facilitated communication of allocation and accounting information relating to usage of our supercomputers with the Teragrid. In addition to those projects, Steve also teaches the Beowulf Boot Camp, along with CSC1351, and contributes to two graduate level computer science classes.

"The Bootcamp has been one of the more rewarding programs I've been involved with here at CCT. In it, we introduce high school students to high performance computing, teaching them about hardware, operating systems, and advanced programming concepts. This year there was a dragon battle, thanks in part to a former Bootcamp student named John Moore," said Steve.

Steve's prescription for life is to, "take advantage of the opportunities you have and the inclinations you possess for creativity. Build something. Don't do just one thing. Don't neglect your spirituality."

One thing you might not know about Steve is that he is an aspiring author. He hopes to have his book, "Lady and the Necromancer" published in the coming years. He also has a blog and is trying to build a wiki site that provides an encyclopedia of nouns for lesser known works of fantasy and science fiction.

His favorite authors are Jim Butcher and Karen Marie Moning.

An interesting fact about Steve is that he was Ed Seidel's first graduate student.

"I am a person of diverse interests. My Ph.D. was in the field of numerical general relativity, studying rotating black hole spacetimes. Because the simulations are in vacuum (i.e. no matter is present, the black hole is formed from spacetime topology) you could say "I studied nothing." Also, because my research consisted of constructing and analyzing numerical simulations, it was also partly computer science."

Pats on the back:

- Congrats to Hari Sundararajan for successfully defending his M.S. thesis and to Rajesh Sankaran, who will receive his PhD in Electrical Engineering at Friday's commencement ceremony.

CCT in the News:

Gov. Jindal Breaks Ground on Louisiana Digital Media Center at LSU - Home to Electronic Arts' North American Test Center

Source: [Louisiana Economic Development](#)

NSF launches new cyberinfrastructure project to succeed TeraGrid

Source: [Physorg](#)

2011 Prizes and Awards Luncheon held at ICIAM July 21, 2011

Source: [SIAM](#)

NMSU engineering research may help solve some of the biggest computer problems

Source: [Las Cruces Sun-News](#)

Please Note:

- The LSU Center for Computation & Technology will host for the first time the LSU iOS Application Boot Camp August 1-12 (10 day camp; not including weekends) on the LSU Campus. This new educational experience offers LSU undergraduates the opportunity to gain knowledge while enhancing their entrepreneurial spirit. Participants will work in groups to create their own operating App and have it loaded on their personal device by end of camp. Registration fee is \$300. For more info and to register, visit <http://www.cct.lsu.edu/iosbootcamp>
- LSU CCT will host an onsite computational science courses being offered by the Virtual School of Computational Science and Engineering. The course is "Proven Algorithmic Techniques for Many-core Processors" (August 15-19). Graduate students, post-docs and professionals from academia, government and industry can gain the skills they need to leverage the power of cutting-edge computational resources at these courses, which are being offered for a \$100 per-course fee. The course is one week long. For more information, visit <http://www.vscse.org/>.
- The 2011 HPC User Satisfaction Survey is open for comment until August 31st. Anyone who uses high performance computing resources at LSU or LONI is invited to take a few minutes to complete the survey: http://www.hpc.lsu.edu/survey/public/survey.php?name=hpc_at_lsu_user_2011. Please help us understand your needs and future requirements.
- Applications for the SC11 Student Volunteer Program are open and close on August 12, 2011. Undergraduate and graduate students are encouraged to apply as volunteers to help with the administration of the conference. In exchange for volunteering, they will receive complimentary conference registration, housing, and most meals. In addition, limited support will be provided for transportation expenses (such as airfare) for international students and students from groups that traditionally have been underrepresented in HPC. For more information visit <http://sc11.supercomputing.org/?pg=studvol.html> or email student-vols@info.supercomputing.org.
- Prior approval is required for Special Meal Requests. Employees who make meal purchases without prior approvals may find that they must cover the cost of any monies spent for an unapproved event out of pocket, especially now that state funds are under a spending freeze. Please contact Susie McGlone (susie@cct.lsu.edu) prior to any special meal with visitor(s) to file the appropriate request for approval. Prior approval could take up to two weeks, so please plan accordingly.
- Please remember to send your news concerning grants, awards, conferences, or other pertinent information to CCT Event Coordinator Jennifer Fontenot at jennifer@cct.lsu.edu
- Follow CCT with social media to access photos and see news, events or updated information. These pages are public; you do not need an account to view the information.
 - o [Facebook group](#) : LSU Center for Computation & Technology

- o [Twitter](#): LSUCCT
- o [YouTube channel](#): LSUCCT

Upcoming events:

July 31- Aug 6: [Computational Thinking from a Parallel Perspective](#)
August 1- 12: [iOS Boot Camp for LSU Undergraduates](#)
August 9-11: [SIGGRAPH](#) (Booth #841), Vancouver, Canada
August 15-19: [Proven Algorithmic Techniques for Many-core Processors](#)

Upcoming Grant Deadlines:

Note: Please check the [CCT deadline Web site](#) , since it is updated daily.

Publish Date:

08-02-2011

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