Dimitri Diakopoulos

ddiakopoulos@gmail.com // 401.919.0636 // www.dimitridiakopoulos.com

Education

Masters of Fine Arts, California Institute of the Arts (2012)

Research-oriented masters with a concentration in computational music and media.

Thesis focuses on methods of mediating artistic collaboration through local and wide-area networks & the design and evaluation of creative tools, games, and environments for mobile devices/sensor systems.

Bachelors of Fine Arts, California Institute of the Arts (2011)

Major in music technology with an emphasis on interface & interaction design, multimedia signal processing, and human-computer interaction.

Primary coursework included: physical computing, computational media, music information retrieval, interface design, robotics, interactive art, and DSP.

Work Experience

Music Technology Program Assistant, CalArts (2011)

Course-owner of CS217, Introduction to Digital Media and Web Development (Fall 2011). Held weekly office hours and TA sessions. Advised on independent studies and student-initiated electronics and software-related research projects.

Web Developer, CalArts (2008 – Present)

Code ninja in the Institute's Information Technology Department. Co-responsible in 2010 for the implementation of a redesigned calarts.edu. Designed the interface and wrote the backend for an on-site student DNS service (calarts.me); architect of several sub-sites including the CalArts Jazz Archive and directory.calarts.edu. Hacker on other projects utilizing HTML5, CSS3, NodeJS, and Drupal.

Consulting Developer, KarmetiK (2009 – Present)

Lead software architect on several client-facing multimedia applications and projects. Previously wrote highly optimized C++ routines for DSP involving real-time audio feature extraction. Implemented several well-known supervised and unsupervised machine-learning algorithms for drum and vocal audio classification. Designed and realized automated, audio-controlled systems for kinetic installations.

Developer for NUI Group, Google Summer of Code (2009)

Designed an extensible toolkit for multi-touch interaction utilizing openFrameworks. Built an open-source drag-and-drop GUI builder named *Argos* on top of the library, facilitating the authorship of user-designed interfaces for musical/visual composition and performance.

Interaction Designer, AH! Interactive Opera (2009)

Constructed a multi-touch surface and co-developed an interactive audio/textual software application for the surface as a lobby installation.

Journal Papers

Vallis, O., Diakopoulos, D., Hochenbaum, J, Kapur, A. 2011, Building on the Foundations of Network Music: exploring interaction contexts and shared robotic instruments. *Organised Sound* 17(1). *To Appear.*

Kapur, A., Darling, M., Diakopoulos, D., Murphy, J., Hochenbaum, J., Vallis, O. and Bahn, C. 2011. The Machine Orchestra: An Ensemble of Human Laptop Performers and Robotic Musical Instruments. *Computer Music Journal* 35(4).

Refereed Publications

HIDUINO: A firmware for building driverless USB-MIDI devices using the Arduino microcontroller. Diakopoulos, D., Kapur, A., in Proceedings of the Conference on New Interfaces for Musical Expression (NIME). Oslo, Norway, May 2011.

The KarmetiK NotomotoN: A New Breed of Musical Robot for Teaching and Performance. Kapur, A., et al in Proceedings of the Conference on New Interfaces for Musical Expression (NIME). Oslo, Norway, May 2011.

Designing Expressive Musical Interfaces for Tabletop Surfaces. Hochenbaum, J., Vallis, O., Diakopoulos, D., et al in Proceedings of the Conference on New Interfaces for Musical Expression (NIME). Sydney, Australia, June 2010.

Argos: An Open Source Application for Building Multi-Touch Musical Interfaces. Diakopoulos, D., Kapur, A. in Proceedings of the International Computer Music Conference (ICMC). New York, June 2010.

The Machine Orchestra Kapur, A., et al in Proceedings of the International Computer Music Conference (ICMC). New York, New York, June 2010.

21st Century Electronica: MIR Techniques for Classification and Performance. Diakopoulos, D., Vallis, O., Hochenbaum, J., Murphy, J., Kapur, A. in Proceedings of the 10th International Meeting for the Society of Information Music Retrieval (ISMIR). Kobe, Japan, October 2009.

Musical Applications for Multi-Touch Surfaces. Hochenbaum, J., Vallis, O., Akten, M., Diakopoulos, D., Kapur, A. 1st Workshop on Media Arts, Science, and Technology (MAST). Santa Barbara, California, January 2009.

Teaching

AS LECTURER, CalArts

CS217 – Digital Media and Web Development, 2011.

Re-designed class to be an all-encompassing introduction to building portfolio websites on the Wordpress CMS. Lectured on topics such as branding, social media and identity management, basic web interactivity, and CSS/HTML.

CS313 – Introduction to Object Oriented Programming (Guest, 3 lectures), 2011.

Introduced core topics including functions, arrays, and ChucK language-specific constructs.

MI330A – Interface Design (Guest, 2 Lectures), 2011.

Taught a two-class series on physical computing with the Arduino microcontroller. Topics included theoretical discussions and workshop-style practical introductions to buttons, LEDs, pulse-width, analog/digital modes, pull up/down resistors, and resistive-based sensors.

AS TEACHING ASSISTANT, CalArts

Maintained weekly office hours; graded assignments and tests; resource for in-class workshops and discussions.

- CS313 – Introduction to Object Oriented Programming. 2009, 2010, 2011.
- MI220 – Advanced Musical Programming – 2010, 2011, 2012.
- MI330 A/B – Interface Design – 2010, 2011, 2012.
- CS316 A/B – Flash Website Design. 2009, 2010, 2011.
- CS319 – Surfing the Web: Theorizing Art & Animation on the Internet. 2010, 2011.

Technical Skills

Fluent Languages

C++, C (Atmel AVR), Java/Processing, ChucK.

Conversational

Objective-C (iOS), C#, Python.

Libraries & APIs

PureMVC, iOS SDK, JUCE, Boost, openFrameworks, Cinder, OpenGL, FFTW.

Tools & Environments

Arduino, Adobe Creative Suite 5, XCode 4, Visual Studio 2010, Eclipse, SVN/GIT.

Fabrication

Circuit design, soldering, metal-working: milling, lathing, cutting, blacksmithing.

Web Development

HTML5, CSS 2/3, PHP 5.3, Javascript, NodeJS. jQuery, Coffeescript, Springcore, MySQL, MongoDB, Drupal 6/7, Wordpress 3.

Awards & Honors

California Institute of the Arts Software Engineering Fellowship – California Institute of the Arts, Valencia, CA. September 2008 – May 2012.

Interdisciplinary Project Grant – $1000 for [GR1D], a site-specific interactive installation. California Institute of the Arts, Valencia, CA. January 2011.

Best Poster Presentation – 10th International Meeting for the Society of Information Music Retrieval (ISMIR). Kobe, Japan, October 2009.