Art && Code **Symposium Short Report**
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OVERVIEW
Art && Code was a Computational Thinking conference concerned with "programming environments for artists, young people, and the rest of us". The conference took place the weekend of March 7-9, 2009 on the campus of Carnegie Mellon University (CMU) in Pittsburgh. It featured 26 workshops in 11 different arts-programming languages, as well as lecture presentations by fifteen of the key innovators leading significant revolutions in the democratization of software-arts education, an exhibition of computational art, and a film series of generative art. The *Art && Code* conference was funded through the re-distribution of a Microsoft Research Grant in Computational Thinking, in the form of a PROBE study from the Computational Thinking Center at Carnegie Mellon.

STATEMENT
Just as true literacy in English means being able to write as well as read, true literacy in software demands not only knowing how to use commercial software tools, but how to create new software for oneself and for others. Recently, a number of projects dedicated to democratizing the education of computational thinking have coalesced. Emerging primarily from the arts sector, a set of new programming tools (and accompanying pedagogic techniques) have been developed by artists, and for artists, to help regular folks and other non-computer-scientists learn to make software. These toolkits – many of which are free, open-source initiatives – have made enormous inroads towards expanding the computational skills and interests of hundreds of thousands of creative people worldwide.

TOOLKITS
Art && Code featured workshop and lecture presentations by the lead creators behind some of the most widely-adopted toolkits for arts programming, including Processing, openFrameworks, Max/MSP/Jitter, Pure Data, VVVV, Scratch, Hackety Hack, Alice, ActionScript (Flash), ExtendScript, and Silverlight. The *Art && Code* event became a first-of-its kind summit, as the creators of these toolkits had never before been gathered together in one place.

These programming tools vary widely in origin; while some are commercial products produced by large teams (Silverlight, Actionscript), and others are projects by academic laboratories (Alice, Scratch), others are produced by small teams of 2-5 self-organizing artists (Processing, openFrameworks, PureData) and created with essentially no funding. The community-created toolkits are of special significance because they are the only arts-programming environments that are both free and open-source. Their use is growing extremely quickly, and the projects created with them push the envelopes of art, technology and culture. For Microsoft, inexpensive opportunities exist for corporate sponsorship of these projects, ensuring good interoperability of these environments with MS operating systems, and high visibility of the MS brand among leading-edge creators.

OUTREACH
The *Art && Code* conference brought together a diverse group of 234 registered participants from 7 countries and 23 states of the USA. Their ages ranged from 11 to 75. There were middle-school teachers from a Native American reservation in Montana; university professors of Computer Science; cyberpunk European C++ hackers; graduate students in media arts and interaction design; and a bevy of high-school and undergraduate students from a large swath of the American Rust Belt.

FUTURE
The *Art && Code* conference promptly established a well-regarded "brand" of outreach events that we hope to continue in the future. Using funds remaining from the first PROBE, a second conference, *Mobile Art && Code*, is planned for November 6-8, 2009. This event will focus on democratizing the programming of mobile phones, telephony networks and locative media – and will feature workshops and lecture presentations by leading artists and designers creating new applications for the Apple iPhone, Google Android, Nokia S90, Asterisk PBX toolkit, Short Messaging (SMS), and Windows Mobile.

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MORE INFORMATION
All *Art && Code* conference activities and discussions are archived at http://www.artandcode.com and/or http://artandcode.ning.com.
Complete videos of *Art && Code* lecture presentations are online at:
http://www.vimeo.com/sfci/videos.