

Virtual Art

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Using the latest mobile technology, artists are finding new ways to explore the nature of interaction, deception, and reality itself.

There are some pretty unique things being done with mobile phones these days, and we're not talking Mission Impossible ringtones.

In Scotland's new National Park at Loch Lomond, artists Fiddian Warman and Siobhan Hapaska have embedded a series of SMS interfaces into trees, modernizing and commenting on the tradition of carving lovers' names into tree trunks.

In a gallery in London, Jon Thomson and Alison Craighead have covered an entire wall with mobile phones—next to the phones is a list of telephone numbers. Visitors who dial the numbers start a chain reaction of call forwarding between the phones on the wall, which sets off a virtual symphony of harmonic beeping.

Artists have always explored the edges of traditional media, and mobile technology is no exception. If art exists to make us more aware of the world around us, the art being created with mobile phones these days tells us a lot.

But first, the furry phone.

Me And My Phone

What's the most fundamental marriage of art and functionality in wireless technology? Well, PDAs, phones and pagers are everywhere these days, and they all start out looking pretty much the same. To add a sense of personal flair to that technology, customized phone covers are taking off on a global scale.

In the US, the market's pretty much limited to Nokia customers, who can go to Nokia's US site (www.nokiausa.com) and sort through covers designed for everything from top colleges to competing hockey teams. And for \$29.95, visitors can design their own cover, using anything from family photos to a Van Gogh painting.

Nokia may have a solid hold on customization in the US market, but worldwide, it's a different story. The fever seems to have hit the hardest in the UK, where countless stores and web sites all sell a full range of covers for Nokia, Ericsson, Philips and Trium phones that vary in theme from the Pink Panther to a blonde in a bikini. Furry covers are even available to transform your phone into a stuffed animal.

And similar possibilities are being explored worldwide. In Kuwait, Future Communications Company (www.fcc-kuwait.com) offers not only Nokia's full range of pre-designed covers, but a number of customized hand-painted covers as well. In

Taiwan, BossWave Enterprises (www.bosswave.com) offers hand-carved wooden covers ranging from a skull to a starfish.

What does all this mean? It's generous at best to view a Pink Panther mobile phone as art, but it does indicate an urge to personalize and identify with the technology we carry with us everywhere, every day. And a new wave of modern art is exploring that urge to personalize on a far deeper level.

Kadoum, Kadoum, Kadoum

Dutch artist Johaan Wagenaar created an art installation last year to look at the connections that exist between people and the technology they use. The installation, entitled "Kadoum" (www.kadoum.com), has been displayed in Barcelona, Zurich, Milan, Fribourg, Leiden, and Washington, D.C. Future installations are planned for Cologne, Berlin, and Rotterdam this fall, as well as New York City's Grand Central Station in January of 2002.

The piece may seem a little unusual, but what it captures is impressive. In Australia, 12 couples, a total of 24 volunteers, wear heartbeat monitors linked to mobile phones as they go about their day. In the gallery on the other side of the world, each heartbeat is connected to an electric motor inside a bucket of water. As each heart beats in Australia, the motor in each bucket pulses through the water with the same rhythm.

The 24 buckets are suspended from metal scaffolding. A choir stands among them singing music composed for the installation, which follows the rhythm of the heartbeats. The name of the installation echoes the sound of a heartbeat (kadoum, kadoum, kadoum...), and it's the translation of that heartbeat over enormous distances that fascinates Wagenaar. "It is a way of translating the energy of the world through a sculpture," he said.

According to Wagenaar, the driving force behind the exhibit is the effort to expose the human side of advancing technology. "Modern technology has this name of being cold and distant, but in reality it is not so," he said. "The problem is that modern technology lacks a skin that we can touch to make it feel human. In Kadoum, I am searching for the connection between the most private space, the heart, and the public space."

A Virtual Paradise

What mobile phones enable in Wagenaar's work is that connection between the truly private and the public, even over great distances. Wagenaar's hope is for the 24 heartbeats to be captured throughout all the activities of a truly normal, average day. With the heartbeats of average citizens in Australia linked directly to the participants in an exhibit in, say, Barcelona, the ability to bridge great distances with wireless technology is given vivid immediacy.

"The use of mobile phones is essential for Kadoum, because we only use real-life heartbeats directly from any place the volunteer works, sports, loves, eats, shops, et cetera," Wagenaar said. "Because of the wireless connections, they can move freely and be a part of normal daily life."

Past installations of Wagenaar's have explored similar themes. In "Hanging the Barber," an installation in Zurich in 1999, a barber cut participants' hair over a grate

in a platform high above the gallery floor. The individual hairs then fell through the grate, allowing visitors to observe them as they cascaded onto the floor. It was that fall, the transformation of the hair from a part of the body to a separate and inanimate object, that fascinated Wagenaar.

And Wagenaar notes that the aims of "Hanging the Barber" and of "Kadoum" are essentially the same. "It is to make something very personal cross the atmosphere and end up falling in a public space," he said. "This 'something' leaves a person to join a collective place."

Wagenaar's perception of the Internet is a powerfully optimistic one. "The Internet reminds me of the cathedrals of the Middle Ages, because it is the most spiritual place which has ever been, destitute of all feeling of pain, sorrow, or destruction," he said. "It is like paradise on earth, where, all the differences being erased, each one can hope to find his place."

When Computers Lie

The darker side of this kind of connectivity, on the other hand, is being explored by Ken Goldberg, Associate Professor at the University of California at Berkeley's Alpha Research Lab (<http://alpha.ieor.berkeley.edu>). His installation "Dislocation of Intimacy," (www.dislocation.net) is a black box containing a web camera; the camera is connected to the Internet using wireless access.

Online visitors to the Dislocation of Intimacy web site remotely operate a set of five different lights inside the black box; turning individual lights on and off changes the visitor's online view of the box's interior. Visitors in the gallery with the box itself, though, see only a sealed black box which periodically makes a whirring noise.

The piece is an exploration of the nature of identity and deception over the Internet. Not only does the manipulation of the box's interior lights tell the visitor very little about what's actually inside, but the visitor can't be sure whether he's really manipulating the lights at all. There's no reason to assume the views aren't simply pre-recorded and stored for viewing on the site. And going to the gallery to check it out yourself won't help.

Goldberg coined a term, telepistemology, to describe the study of this kind of knowledge obtained at a distance. In his book *The Robot in the Garden*, he writes, "Are we being deceived? What can we know? What should we rely on as evidence? These are the central questions of epistemology, the philosophical study of knowledge, dating back to Aristotle, Plato, and the ancient Skeptics."

Mobile Deception

This theme is explored even more directly in Goldberg's latest project, the Tele-Actor (www.tele-actor.com). Called a "post-robotic framework for collaborative Internet telepresence," the project allows Internet visitors to remotely direct a human "Tele-Actor" who wears a helmet with a webcam attached, which is linked to the Internet through an 802.11b wireless connection.

Anyone who accesses the project over the Internet can select from a set of options (walk forward, turn right, stop, say hello, etc.) in order to control the Tele-Actor. With any number of directors participating at a given time, each action the Tele-

Actor makes is the result of a majority vote among all those online. It's a vivid realization of global collaboration.

And wireless only expands the possibilities. "Using wireless on the server side, as we are for the Tele-Actor, allows one to set up cameras in more interesting locations, for example in a remote jungle or at sea," Goldberg said. "An interesting question is how users will use cameras on the client side—using your cell phone to view a distant sunset, for example."

Still, Goldberg notes, the reliability of that collaboration is hard to establish: you can't see the others who are voting on the Tele-Actor's movements, so you can never be sure what's really going on. Who knows if your vote is really counting, or if the Tele-Actor is just following a pre-planned set of commands?

And he notes that while wireless connections expand the possibilities for the project, they also make the issue of deception all the more complex. "When you go to wireless, it actually creates a new variation on the same set of problems," Goldberg said. "In particular, the reliability is weaker; and it raises the question of what you're controlling, what kind of actions you can perform, and how believable that interaction is."

Global Possibilities

Wagenaar and Goldberg are just two of the countless artists worldwide who are exploring a deeper meaning in the Internet. Whether it's about creating a virtual utopia or investigating levels of deception, the possibilities opened up through the Internet are endless—and those possibilities are only expanded when you factor in wireless technology. Even if you're uncomfortable accepting heartbeats in buckets as art, the concepts being explored are fascinating.

And those concepts continue to expand along with the technology. At MIT, researchers Flavia Sparacino, Glorianna Davenport, and Alex Pentland have been working on using wearable computers to create a total immersion experience inside a virtual world, going so far as to describe that world as an additional dimension.

The project, entitled *Wearable Cinema/Wearable City*, includes two key components, both of which are focused on immersing the user in a three-dimensional world, like watching a movie from the film set itself.

Wearable City uses the wearable computer to turn the web into a visual landscape of skyscrapers and alleyways, divided into neighborhoods by topic. Designed to match any city familiar to the user, the space is divided in a way that helps the user more easily categorize the Internet, with a financial district, entertainment district, shopping district, etc. *Wearable Cinema* extends the *Wearable City* concept into a narrative form, adding audio and visual narration to accompany the physical movement.

Take that idea to the next level, and that virtual city could either be as serene as Wagenaar's utopian paradise, or as untrustworthy as Goldberg's black box.

You thought "The Matrix" was cool? We're just getting started.