

# Inspirational Interactivity

## The ITP Winter Show 2004

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*Many thanks to Tom Igoe for permitting the use of his photographs in this article.*

Few events capture the public imagination like the Tisch School of the Arts' Interactive Telecommunications Program Winter and Spring Shows. They are always an enjoyable and impressive display of emerging and innovative technologies, and the Winter Show 2004 was no exception. The work by ITP's talented students showcased at this event (which is free and open to the public) is consistently fun, inspirational, and fascinating.

The Winter Show 2004, held on December 19th and 20th, was a hands-on playground of sights, sounds, and sensations, representing nearly 100 projects from more than 25 ITP classes. Since it is, unfortunately, impossible to do them all justice, a small sampling of the projects is described below. Details about

all of the Winter Show projects are available at <http://itp.nyu.edu/show/>.

"Out of the Closet" by Sonali Sridhar and Michal Brill broadens the horizons of fashion by introducing the idea of networked clothing. The apparel features tri-color Light Emitting Diodes (LEDs) that wearers can adjust to their mood or preference. Once a wearer goes out in public, wireless sensors on the clothing cause the lights to pulse and change color when he or she walks past another person sporting the same brand (see figure 1). The designers' idea is to facilitate random social interaction through a visual cue of common interests, similar to the way that strangers walking dogs or using the same brand of technology are more likely to strike up a conversation.

"Sonicroller" by Spencer Kiser and David Hindman offers a new take on music instruction, providing the opportunity to play a video game using only a keyboard and the player's voice to control the action. The team use Max/MSP software to process the audio data signal from the players into an adapted Nintendo-64 game controller, with the resulting game (in this case, Mortal Kombat) displayed on a video screen. Although no musical expertise is required to enjoy this game, it is a fun and useful tool for encouraging aspiring musicians to practice.

"Bicycle Wheel" by Michael Kertesz uses a programmable strip of LEDs mounted on the spokes of a bike to demonstrate how the "Persistence of Vision" phenomenon can be used to increase cyclists' safety



*Figure 1. "Out of the Closet" clothing provides visual inspiration for social interaction.*

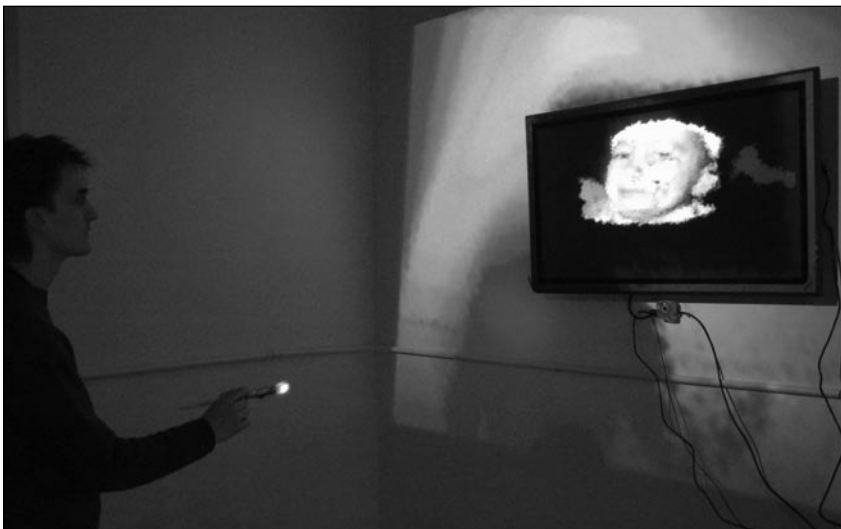


*Figure 2. Fun meets functionality in Michael Kertesz's "Bicycle Wheel."*

and pedestrians' entertainment. As described by the designer, "'Persistence of Vision' is the ability of the human eye to perceive a series of rapid still images as a single moving image by retaining each impression on the retina for about one-tenth of a second." The lights, which can be programmed to display a message or image, effectively increase the bike's visibility to drivers, while creating an ephemeral social interaction between the biker and the public as they speed by (see figure 2).

"on beauty" by Joan Soler Adillon is a politically-inspired product of Daniel Rozin's course, "The World—

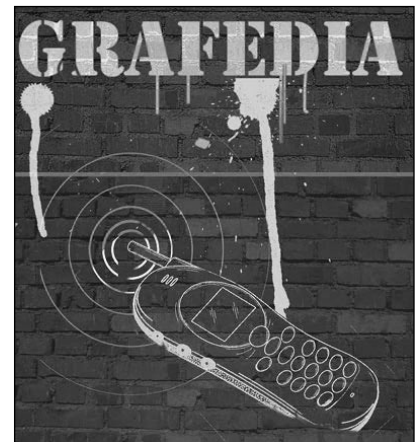
Pixel by Pixel." As a participant approaches a blank plasma screen, he or she is handed a brush and asked to "paint" the air in front of the screen. As he or she moves the brush, a beautiful, stylized photograph is slowly revealed on the screen, juxtaposed with a live projection of the participant on the periphery of the screen. Eventually, the participant will uncover enough of the image to recognize that it actually depicts a victim of war or social injustice. The designer's goal is to provoke the participant into a realization that the beauty and technology that surrounds us in the western world is a



*Figure 3. Joan Soler Adillon's "on beauty" uses surprise to provoke thought.*

privilege that sometimes comes at a cost to others (see figure 3).

John Geraci describes his project, "Grafedia" as "hyperlinked text in the physical world." He has developed a platform for participants to create street art by writing a message in a public space that—playing on the traditional hyperlink—indicates a keyword in underlined blue lettering. The writer then uploads a media file to the Grafedia site to be associated with the linked word. Passersby who notice the Grafedia message can "click" on the link by using their cell phones to send a text message to the keyword followed by *@grafedia.net*, and soon after receive the writer's media file in reply. The designer's



*Figure 4. John Geraci's "Grafedia" brings hyperlinked text into the physical world.*

intention is to make every physical surface a potential web page, thereby facilitating communication and integrating the physical world more closely with the virtual (see figure 4).

"Solar Wallpaper" by Teresita Cochran, Marta Lwin, Ramakrishnan Subramanian, and Ty Whitfield, is an aesthetically pleasing exploration of sustainable energy sources. The wallpaper is embedded with electroluminescent technology that stores solar energy in a battery when a room is sunlit, then automatically increases luminosity (in this case with glowing flowers) to meet the lighting requirements of the room



*Figure 5. "Solar Wallpaper" offers an inventive and aesthetically pleasing approach to energy conservation. (Pictured: Marta Lwin).*

once the sunlight fades. The project is an elegant combination of creative energy conservation and beautiful lighting design (see figure 5).

"Through the Looking Glass..." is an interactive mirror display developed by Gabriela Richard and Thomas Ainslie as part of the "Developing Assistive Technology" class. It is intended for use by children with various kinds of disabilities. Developed from the designers' research with NYU occupational therapy students Wan-Wen Chiu and Vanessa Khan, this versatile tool encases a large plasma screen within a col-

orful display featuring various tactile sensors that, when touched, produce digital effects on the screen. The goal is to encourage children to reach, push, pull, and turn the sensors to build upper body flexibility and strength, while increasing their comfort with touching a variety of textures that they might normally avoid (see figure 6).

"The Bureau of Doctor Goodman" by Jeffrey Galusha and Emily Conrad offers an interactive post-linear narrative of "love, deceit, and murder." Inspired by pulp fiction, radio mysteries, and a desire to work out-

side the constraints of traditional literature, the creators embedded an antique bureau with Max/MSP-driven hardware. As participants randomly open doors and drawers in the bureau, they are treated to brief audio clips of a lurid story told from multiple perspectives, resulting in a unique interactive experience for each person.

"Ptooie" by Dedi Hubbard and Joseph Versoza consists of a networked flower that detects unencrypted (and therefore insecure) traffic on a wireless network (see figure 7). When "planted" on a given network, the flower's software monitors network traffic to sniff out passwords that have been sent in the clear; when one is found, the flower's health visibly decreases. The goal of the project is to raise security awareness by offering a visible indicator of the "health" of a given network.

"nyc wind portrait" by Marta Lwin and Noah Shibley is a digital art installation in which a photograph of the participant is displayed on a large plasma screen, and is then digitally manipulated by real-time dynamic wind data measured in Central Park (see figure 8). The result is mesmerizing, as the pixels of the photograph are "blown" off or around the screen in accordance with the current velocity and direction of the wind. A sample portrait in action is available at <http://stage.itp.nyu.edu/~mjl359/cgi-bin/windFIN.pl>.

"cell.SPACE" by Dana Karwas uses cell phone text messages as



*Figure 6. The interactive mirror of "Through the Looking Glass..."*



*Figure 7. "Ptooie" gives a visual indicator of network security.*



*Figure 8. Portraits are beautifully deconstructed in "nyc wind portrait."*

source material for instantly generated music videos that can then be displayed in a public forum. Once received, the message is displayed as text on a screen with customized graphics, and the words of the message are used as lyrics set to a hip hop beat, performed by a voice of the participant's choosing (e.g., female, robot, etc.). cell.SPACE gives participants a unique opportunity to creatively convey a message while controlling the sights and sounds in any given public space (see figure 9).

"EM Shelter Booth" by Philip Hirshfeld (an NYU Gallatin School student enrolled in an ITP course) investigates the idea of Electrosmog, or electromagnetic (EM) radiation concentrations in urban areas. The designer conceptualizes EM shelters (similar to phone booths) and copper mesh wallpaper, tiles, and curtains, all of which could be used to protect the user from EM radiation, which some people believe to be detri-



Figure 9. Sample stills of music videos generated by Dana Karwas' cell.SPACE.



Figure 10. The meditative "Pulse Lamp" glows in time with your heartbeat.

mental to health and privacy. In our increasingly networked world, these concepts provide an interesting take on the idea of finding refuge in the urban landscape.

"ePaparazzi," a game developed by Gregory Trefry, Andrew Cummins, Demi Pietchell, Zohar Rotblit, and Ron Shely, challenges players to photograph other players in specific situations (e.g., talking on the phone) over the course of a week, while avoiding being photographed themselves. The results are sent to and displayed on a website, which also tracks each player's progress throughout the game. The team of creators "wanted to develop a large-scale game that would intermingle with players' everyday lives [and] take advantage of the communal aspects of sharing photos...while also generating a bit of paranoia in players."

"Pulse Lamp" by Greg Trefry and Matty Sallin is an ornamental lamp that detects and "echoes" a person's heartbeat by pulsating in brightness (see figure 10). A participant places his or her hands on either side of the lamp base, where the pulse is detected. The resultant rhythm, soothing glow, and pleasing design of the light create a hypnotic

biofeedback effect, which is thought to relax participants and slow their heart rates. The designers' goal was to take an unconscious function of the human body and raise it to the public, conscious level, where it can be visible and useful to the participant and shared with others.

While this is only a small cross-section of the wonderfully diverse and innovative projects coming out of the Interactive Telecommunications Program, I hope it will inspire those of you who are not already fans to explore the entire Winter Show 2004 website at <http://itp.nyu.edu/show/>, and to attend the Spring 2005 show (May 10-11, 5:00-9:00 pm) to discover what these talented students will come up with next.

If you are interested in actually creating interactive technology projects like these, ITP welcomes non-majors from NYU and people from outside the University into their summer classes; see [http://itp.nyu.edu/itp/object/ITP\\_master.html](http://itp.nyu.edu/itp/object/ITP_master.html) for more information.

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