Devices that Alter Perception (DAP 2008)

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SUMMARY
Sensors, actuators, implants, wearable computers, and neural interfaces can do more than simply observe our bodies; these devices can alter and manipulate our perceptions. This workshop will promote design and critique of systems with the explicit intent of altering the human percepts. Participants will be asked to present position papers or demonstrations concerning devices that act on phenomena related to the process of perception. The goals of the workshop are to: (1) better understand the process of perception (2) aid those developing devices by sharing designs (3) debate of ethical and social issues that are unique to devices that operate below or upon awareness.

Author Keywords
Perception, ubiquitous computing, sensors, augmented reality, phenomenology, ethics

ACM Classification Keywords
B.4.2 Input/Output Devices, H5.m. Information interfaces and presentation, K.4.1.c Ethics

ON LINE MATERIALS
The call for papers, information for attendees, and accepted submissions are hosted at:

http://www.k2.t.u-tokyo.ac.jp/perception/dap2008/

WORKSHOP FORMAT
Both device demonstrations and design discussions are welcome for 10-minute oral presentations or demonstrations followed by 5-minute question and answers sessions. The workshop will encourage lively debate on the social, aesthetic, and ethical implications. We expect between 10 and 20 presentations or demonstrations from participants. Position papers describing submissions may range between 2 to 4 pages. The format of the submission will be PDF in ACM SIGCHI format (LaTeX and Word templates are available). Preceding the workshop, position papers will be posted and available for public comment on the workshop website. The workshop submissions will also be prepared for inclusion in the digital handout for UbiComp attendees. Submissions describing work-in-progress and early designs and systems are welcome. At the workshop's conclusion participants will vote to award a best design prize.

TIMELINE
- May 30th, 2008: Call for papers announcement
- June 27th, 2008: ~~Deadline for paper submission~~
- July 7th, 2008: Updated deadline for paper submission
- July 25th, 2008: Author acceptance notification
- August 4th, 2008: Camera-ready papers due
- August 8th, 2008: Position papers available online
- September, 21st 2008: DAP 2008 Workshop
- September 22-24 2008: UbiComp Main Conference

PRELIMINARY AGENDA

9:00 - 9:15	Introduction
9:15 - 10:30	Design Discussions
10:30 - 11:00	Coffee break
11:00 - 12:15	Demonstrations
12:15 - 13:30	Lunch
13:30 - 15:00	Design Discussions
15:00 - 15:30	Coffee break
15:30 - 16:30	Demonstrations
16:30 - 17:00	Voting DAP 2008 for best design prize
17:00 - Onward	Workshop reception

TOPICS OF INTEREST
We are seeking concrete work related to human perception such as sensors systems, physical computing, and interaction design projects. The areas of augmented cognition, augmented reality, subliminal user interfaces, brain-computer interfaces, prosthetic design, affective computing and haptics are all overtly relevant.

Examples of suitable subject areas include:

- Devices which initiate reflexive responses in users
- Phenomena such as perceptual illusions which can be exploited by systems and devices
- Media art that makes abnormal use of the viewer's precepts.
- Systems which seek to alter user behavior subtly (such as alerting the user without diverting attention)
- Prosthetics that transform perception by making use of techniques such as sensory-swap
- Sensor systems that regulate or reshape emotions
- Psychological and physiological studies that relate to the process of perception
- Device designs capitalizing on neuroscience techniques such as diffuse optical tomography and transcranial magnetic stimulation
- Displays that allow atypical perceptual experiences (such as interfaces for high-speed or time-lapse photography)
- Worn devices that simulate synesthesia
- Perceptual user interfaces that feedback physiological signals
- Devices that map imperceptible phenomena onto the precepts
- Haptic devices that allow re-experience of another persons' precepts

Position papers should take care to develop a context in which a device or design is used. Scenarios and narratives describing how the technology is applied are encouraged.

Critiques of the social and ethical implications of devices that alter perception are particularly welcome. Interfaces and devices that operate below the level of human awareness present unique moral quandaries for designers. Can users control devices that manipulate the percepts? What would be necessary for users to trust these devices? Such ethical design questions deserve consideration and debate since delusory experiences and unreliable perceptions may be unplanned byproducts of these devices.

Since the study of perception and development of devices are activities sometimes isolated from one another, the workshop will cultivate a plurality of approaches from traditional disciplines such as physiology, human-computer interaction, electrical engineering, psychology, and cognitive science.

WORKSHOP GOALS

Through demonstration and debate of perceptual devices, we hope increase awareness of the body as a domain for ubiquitous computing. We would be delighted if the Devices that Alter Perception workshop accomplished:

- Joint discussion by sensor engineers and interaction designers on the topic of perceptual phenomena and processes
- Critique and recognition for designers of devices that focus on the percepts
- Debate of social problems and ethical issues that surround technologies operating on or below the level of user awareness

The workshop's results should be widely applicable since the human precepts (as embodied by our sensory nervous system and evidenced by our conscious experience) are an element of every interaction with ubiquitous devices.

SPONSORS

This workshop is jointly sponsored by the University of Tokyo's Meta-Perception Research Group and the Royal College of Art's Design Interactions Department.