Everysense Everywhere Communication

Adrian David Cheok
Director, Imagineering Institute, Iskandar, Malaysia
Professor of Pervasive Computing
City, University of London
Facebook:adriancheok Twitter:@adriancheok
Senses
Nonverbal communication is powerful

60% of all communication is nonverbal  (Burgoon, Buller, & Woodall, 1989)
Future of Internet

Communication with all of our senses

From “Information Communication” to “Experience Communication”
Vision
Reality-Virtuality Continuum

Mixed Reality

Real Environment  Augmented Reality (AR)  Augmented Virtuality (AV)  Virtual Environment

Adapted from Milgram, Takemura, Utsumi, Kishino. Augmented Reality: A class of displays on the reality-virtuality continuum
Human Pacman

Sound
Background: Ubiquitous Content Project (Keio Univ., 2004-2009)

AMAGATANA + FULA
MobileHCI + Daily Object = Fun
Touch
Results of Study - Japan

Results of Study - U.S.
Huggy Pajama
Remote bi-directional hug communication system

Charge jacket with a micro USB connection

wash:
1. Unzip lining from outer shell
2. Unsnap electronics bag from lining

Outer Shell: machine wash
Inner Lining: hand wash
Electronics Bag: do not wash
INTERACTIVE RING

Squeezed the ring

Squeezing the ring
Internet based Mini-Hug Ring
ring*U
world's first tele-hug ring
Structure of Ring

- Force Sensor
- LED
- Battery
- Vibration
- Bluetooth Low Energy
System Configuration

Ring*U: world's first tele-hug ring

Ring*U A
Press / Touch / LED Light

Wireless Network
Facebook, Twitter, Google+

Ring*U send to Partner's Touching Signal & Emoticon & Text & Image to Partner Through Internet

Real Time Wireless Communication System Through Internet

Ring*U B
Press / Touch / LED Light

Wireless Network
Facebook, Twitter, Google+

Internet
Kiss ME
Hi-fidelity physical interface for transferring a remote and mediated kiss in real-time, facilitating intimate human telepresence in the real and virtual worlds.

The Internet

Kiss ME

Kiss ME
Kisscea A

Wireless Network

Internet

Wireless Network

Real Time Wireless Communication System Through Internet

Kisscea send to Partner’s Video Chat with Kiss Behavior and Scent

Kisscea B
HELLO BABY... HOW ARE YOU DOING?

HI DAD... I HAVE WON THE SCHOLARSHIP!!

OH..REALLY!! I WISH I COULD GIVE YOU A KISS...

WAIT A MINUTE... DO YOU HAVE THE KISS ME?

SURE I DO!!!
Smell and Taste
Smell, Taste and Emotion

• The olfactory bulb in the brain, which sorts sensation into perception, is part of the limbic system. This link to brain's emotional center links smell to memories, feelings, and emotions. The only two senses directly connected to limbic system
Current technologies & applications

- Chemical based
- Analog
- Impractical to transmit
- Scalability
- No digital controllability

Visual component

Equivalent component in smell and taste?
Introducing... 

Sensorama

The Revolutionary Motion Picture System that takes you into another world with

- 3-D
- WIDE VISION
- MOTION
- COLOR
- STEREO-SOUND
- AROMAS
- WIND
- VIBRATIONS

Sensorama, Inc., 855 Galloway St., Pacific Palisades, Calif. 90272
Tel. (213) 459-2162
Images
Digital data from web site

Text
Digital data from mobile

Rice message
Creating a natural interface that is familiar to the older generation

RICE PRINTER
Sending food message
A variety of information, weather, mood, and occasion and integrates these in the form of food.

Receiving edible food message
A new form of narrative that is paperless, biodegradable and allows people to send messages in a more intimate way.

3D FOOD PRINTER
Delivering scented air by vortex rings

Tracking nose direction

Aiming at the nose

Platform

Air cannon

Camera
世界初、スマホが香る。

ChatPerf
Keio-NUS CUTE Center, Nimesha Ransinghe
Digital Devices for New Experiences and Creations of Taste & Smell
New input and composition of food

Composing Taste & Smell of New Food

Digital Composed Taste & Smell of New Food
Chef of the Future
Cooking of the Future
Alex (24) New York, USA  
Connected…
Thank you! Let’s stay in touch!

Adrian David Cheok
Facebook:adriancheok Twitter:@adriancheok