

YCAM Research and Development

## YCAM InterLab Camp vol. 2 – TECHTILE

2011-2012 (continuous 2-year program)

Symposium “TECHTILE: A perspective for TECHNOlogy based tactILE design”

August 21 (Sun) 14:00-18:00 Yamaguchi Center for Arts and Media [YCAM]

### **Haptic technology + Haptic expression A project examining the implementation of the cutting-edge technologies on tactile design**

The “YCAM InterLab Camp” is an educational & research program which intends to establish possible artistic expression with up-to-date technologies through lectures, workshops and presentations given by researchers and engineers working in their research forefronts.

Following the first InterLab Camp in 2008, the topic of second Camp is “TECHTILE”, which stands for the tactile impressions presented with haptic technology such as tactile displays. This is a two-years project, and the members of the YCAM InterLab, our own independent research team, work together with four researchers and designer on TECHTILE.

This program aims at producing a system development environment for the tactile expression based on the collaborative studies with researchers. In addition to this, we host the “TECHTILE” symposium and an intensive course for intermediate and advanced level participants who want to know how to manipulate tactile expressions.

YCAM plays a role not only in encouraging a constructive dialogue on tactile expression from the viewpoints of science, technology and artistic ex-



pression, but also in creating community on tactile expression with “TECHTILE toolkit”. This toolkit is originally developed in this research program, and it will work as teaching material in the intensive course.

As a kick-off meeting, we will host the symposium on “TECHTILE” with four panelists. Their background are contemporary art, dance, robotics, and psychology. Each panelist give a presentation on their works, and YCAM host the discussion on this interdisciplinary topic in terms of artistic and engineering viewpoints.

#### **INQUIRY**

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## TECHTILE – TECHnology-based tacTILE design

### A project for creating the future direction on technology and tactile expression

“TECHTILE”, a compound term by combining “TECHnology” with “tacTILE” perception/expression, has been a key topic of the study. The TECHTILE committee have been hosted exhibitions on haptic technology in Japan since 2007.

Latest development in haptic technology makes it possible to replay, represent, or even modulate tactile perception for achieving rich tactile experience. Similarly, a number of artists and designers have been sporadically presenting new haptic artworks in their fields, in order to find new artistic expressions.

“YCAM InterLab Camp vol. 2”, is organized to promote a developing community that allows participants to “feel” the basic study results in the field of TECHTILE, and to establish the future tactile expression.

Four panelists, including contemporary sculptor and dancer, researchers in engineering and human sciences, will introduce their works in a public symposium, while a related exhibition at the same venue offers further insights into possible TECHTILE future. The event is an opportunity for constructive dialogue on the future prospects and technologies in the “TECHTILE” area.



Exhibition (2007) photo: NOSIGNER

### About YCAM InterLab Camp vol.2 –TECHTILE

#### Develop the programmable tactile interface system for everyone

A variety of touch devices have been introduced into our daily lives such as smartphones, portable game consoles and tablet computers. Along with the growing demands for tactile perception-based interfaces, academic interests on the sense of “touch” is steadily increasing.

The objective of the “YCAM InterLab Camp vol. 2 – TECHTILE” is to develop a practical tactile device named as “TECHTILE toolkit”, which is hardware/software system for tactile expression. With adopting numerous research outcomes in academia, we are shaping “practically usable interfaces” which can be utilized in examining tactile expressions in contemporary art and design.

#### Open the door for tactile expression in contemporary art and design

A huge variety of computer-human interfaces, including touch interfaces, have been gradually employed as parts of installations and interactive media art. Taking these increasing interests into consideration, “YCAM InterLab Camp vol. 2–TECHTILE” will conduct interdisciplinary research and experimental work production related to “touch”.

Applying up-to-date haptic technology in artistic work and performing art, we will explore further possibilities of tactile expression, and also we suggest future direction on the up-coming haptic technology development.

## YCAM InterLab Camp vol. 2 / Directors

### YCAM InterLab

#### Research and Development Team

The YCAM InterLab is a team of researchers and developers with particular expertise in media art, integrated in the Yamaguchi Center for Arts and Media [YCAM]. Specializing in the development of technologies for the production of installations and performing art works commissioned by YCAM, the InterLab members cooperate with artists and external engineers to provide technical support for the realization of artworks. Next to research and practical attempts in implementing leading-edge technology in the realm of art, they engage actively in various collaborative research with specialists invited from all parts of the world, with the aim to establish human networks and facilitate exchange among the technical departments of cultural facilities, while continually expanding their area of investigation.

<http://interlab.ycam.jp/>(new website open since June 2011)



#### \*YCAM InterLab Camp vol.1 —openFrameworks September 25-28, 2008

This was a four-day intensive course on the general theme of “openFrameworks” as an environment used for the development and production of media art, led by openFrameworks developers Zachary Lieberman and Theo Watson. Participating in this course for intermediate and advanced level students with specialized knowledge were a total of 15 students and engineers from Japan and other countries including Australia and Korea. The course was an attempt to impart technical skills through conception, experimentation and implementation, with a focus on social contexts as reflected in new technologies.

### Yasuaki Kakehi

#### Researcher, in the field of human interface and media art

Received his Ph.D. from the University of Tokyo Interfaculty Initiative in Information Studies, Graduate School of Interdisciplinary Information Studies, in 2007. Participated as a researcher in the Japan Science and Technology Agency’s research promotion program PRESTO (Precursory Research for Embryonic Science and Technology), and worked as a full-time lecturer at Keio University. Currently he is an associate professor at the same university’s Faculty of Environment and Information Studies. While conducting research in the fields of real world-oriented informational environments, interactive media and media art, he has been creating artworks in collaboration with the media art group “minim++” (Motoshi Chikamori & Kyoko Kunoh).

### Masashi Nakatani

#### Scientist, in the field of tactile perception and skin physiology

After working as a research assistant at Harvard University (USA), he received the Ph.D. from the Graduate School of Information Science and Technology, The University of Tokyo, in 2008. In the same year he started his postdoctoral carrier in cosmetic industry, and he is currently working both as a scientist in skin physiology and as an engineer developing haptic sensor system. He is also working as a visiting researcher at the Graduate School of Media Design, Keio University since 2009. His academic interest is how tactile impression changes the human emotion and preference, and he pursues to achieve haptic research outcomes in academia to be industrialized in the context of TECHTILE.

### Kouta Minamizawa

#### Researcher, in the field of haptic interface

Received his Ph.D in Information Science and Technology from the University of Tokyo in March, 2010. Worked as a senior assistant professor at the Graduate School of Media Design, Keio University, where he is teaching as a special-appointment lecturer since 2011. His studies focus on haptic displays, virtual reality and Tele-existence. Developed and presented the “Ghost Glove” , a glove-type interface, in Japan and abroad.

<http://minamizawa.jp/>

### NOSIGNER (Eisuke Tachikawa)

#### Designer

Head of the design office NOSIGNER, a name chosen to refer to the “invisible aspects” of design. Operates in a broad range of fields including space, product and graphic design, always in pursuit and consideration of socially functional design in his efforts spanning the realms of science, education and local industry. Initiated the Olive Project, a “Wikipedia-style” website collecting useful design and other ideas and information for people in the disaster-stricken areas in northern Japan.

<http://www.nosigner.com/>

## Symposium

# “TECHTILE: A perspective for TECHNOlogy based tactILE design”

**August 21 (Sun), 2011 14:00-18:00**

**Yamaguchi Center for Arts and Media [YCAM]  
Studio A**

**Admission free \* Japanese only**

### Panelists



**Kohei Nawa**

**Sculptor**

[http:// www.kohei-nawa.net/](http://www.kohei-nawa.net/)



**Yoko Ando**

**Dancer**

<http://www.yokoando.com/>



**Junji Watanabe**

**Scientist**

<http://www.junji.org/>



**Akihito Sano**

**Researcher in Robotics and Haptics**

<http://drei.mech.nitech.ac.jp/~sano/>

### Moderator

**YCAM InterLab Camp vol. 2 / Directors**

**[Masashi Nakatani, Yasuaki Kakehi, Kouta Minamizawa,  
NOSIGNER (Eisuke Tachikawa), YCAM InterLab]**

\*Application required (application starts: June 26)  
Target group: High school students and above  
\*Entry may be possible without application as long  
as seats are available  
\* For more information on “TECHTILE” please visit  
<http://www.techtile.org/>

Organized by: Yamaguchi City Foundation for Cultural Promotion  
In association with: Yamaguchi City, Yamaguchi City Board of Education  
Co-developed with: YCAM InterLab; Yasuaki Kakehi Laboratory, SFC, Keio University;  
Tachi Laboratory, Graduate School of Media Design, Keio University  
Produced by: Yamaguchi Center for Arts and Media [YCAM]

## YCAM InterLab Camp vol. 2 — TECHTILE Symposium

### “TECHTILE: A perspective for TECHNOlogy based tactILE design”

**August 21 (Sun), 2011**

**\*Mini TECHTILE exhibition open 13:00-19:30**

**14:00-14:45**

#### Part 1: “What is TECHTILE?”

Moderators will give a brief outline about the objective of the “YCAM InterLab Camp”, and the current theme “TECHTILE”.

**14:45-15:45**

#### Part 2: “Technology Session”

Two researchers give a talk about their study related to haptics, and draft new “TECHTILE” possibilities in terms of both science and technology.

Panelists: Junji Watanabe (Scientist),  
Akihito Sano (Researcher in Robotics and Haptics)

**15:45-16:00 Intermission**

**16:00-17:00**

#### Part 3: “Art Session”

Two artists showcase their endeavors revolving around the sense of touch and expressions of tactile perception, and in addition, share their own visions of future “TECHTILE” developments.

Panelists: Kohei Nawa (Sculptor), Yoko Ando (Dancer)

**17:00-18:00**

#### Part 4: Discussion

#### “Artistic tactile expression, Tactile artistic expression”

An Introduction of newly developed TECHTILE toolkit prototype, and the moderator and panelists conduct a panel discussion on the future direction in contemporary art and technology with tactile expression.