## Title
Multimodal fashion communication using sound, vision, and smell

## Sub Title

## Author
崔, 容淳(Choi, Yongsoon)  
稲見, 昌彦(Inami, Masahiko)

## Publisher
慶應義塾大学大学院メディアデザイン研究科

## Publication year
2012

## Abstract
This thesis presents Fashion Communication Media, wearable fashion media with the aim to enhance social relationships and communication experiences. The work presented in this thesis is exploratory in nature. Novel prototypes were designed and implemented as systems intended to enhance human social impression and sociability. The systems include two new research prototypes: Sound Perfume and Light Perfume. Sound Perfume is designed to help the user express a unique auditory and olfactory identity from his/her fashion accessory. During face-to-face communication with a communication partner, the subtle experience of stimuli can help people's memory of the user as well as affect people's impressions about the user. Light Perfume is designed such that the user and his/her communication partner mirror their nonverbal communication cues together. This can include: tone of voice; environmental noise; gesture movement; using the same speed of blinking and color in lighting; whiffing the same fragrance from a wearable accessory. All this takes place during face-to-face communication. It makes them feel bonded and this mirrored feeling affects both communication partners' impression of each other during face-to-face communication.

Both quantitative and qualitative methods are employed in user studies of two systems and the results show that both prototype systems helped the user form positive impressions in different ways. Sound Perfume system positively affected the wearer's 'Sociability' and 'Ethics' impressions (e.g. warm, friendly, pleasant, close, optimistic, fair, sincere, and honest) to his partners even they were stimulated from a negative sound sample, especially in their first encounter. Light Perfume also could positively affect the wearer's 'Sociability' impressions (e.g. warm, friendly, pleasant, close, and optimistic) to her partners from the mirroring expressions regardless of stimuli sample types.

There is a discussion of the scope and limitations of the research, accompanied by a description of future scenarios and design explorations to see how Fashion Communication Media can affect our daily lives. From the beginning, fashion has tried to harness diverse expressions from the various available materials. Those expressions are all related to our human senses. Emitted light, sound, smell and touch are not yet major parts of the expressive vocabulary of fashion. However, it is important for designers and researchers to consider their use in contemporary fashion technology. The works researched in this thesis can help people form and maintain positive emotional bonds through subtle sensory stimulation during face-to-face communication. This thesis contributes to the design of emotional communication and to building meaningful relationships in society through the use of rich sensory stimulus such as smell, sound, touch and lighting in Fashion Communication Media.

## Notes

### Genre
Thesis or Dissertation

### URL

The copyrights of content available on the KeiO Associated Repository of Academic resources (KOARA) belong to the respective authors, academic societies, or publishers/issuers, and these rights are protected by the Japanese Copyright Act. When quoting the content, please follow the Japanese copyright act.
Multimodal Fashion Communication using Sound, Vision, and Smell

by

Yongsuen Choi

A thesis presented to the University of Keio in fulfillment of the thesis requirement for the degree of Ph.D of Design in Media Design

Keio University, Japan, 2013

©Yongsuen Choi 2013
Multimodal Fashion Communication using Sound, Vision, and Smell

by

Yongsoon Choi
Graduate School of Media Design
Keio University

Approved by

Supervisory Committee
Prof. Adrian David Cheok, (Graduate school of Media Design in Keio University, Japan)
Prof. Ichiya Nakamura, (Graduate school of Media Design in Keio University, Japan)
Prof. Masahiko Inami, (Graduate school of Media Design in Keio University, Japan)

Evaluation Committee
Prof. Kenichi Okada, (Information and Computer Science in Keio University, Japan)
Prof. Woontack Woo (Graduate School of Culture Technology in KAIST, Korea)
Prof. Ichiya Nakamura, (Graduate school of Media Design in Keio University, Japan)
Prof. Masahiko Inami, (Graduate school of Media Design in Keio University, Japan)
Author’s Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.
I understand that my thesis may be made electronically available to the public.
Abstract

This thesis presents *Fashion Communication Media*, wearable fashion media with the aim to enhance social relationships and communication experiences. The work presented in this thesis is exploratory in nature. Novel prototypes were designed and implemented as systems intended to enhance human social impression and sociability. The systems include two new research prototypes: *Sound Perfume* and *Light Perfume*. *Sound Perfume* is designed to help the user express a unique auditory and olfactory identity from his/her fashion accessory. During face-to-face communication with a communication partner, the subtle experience of stimuli can help people’s memory of the user as well as affect people’s impressions about the user. *Light Perfume* is designed such that the user and his/her communication partner mirror their nonverbal communication cues together. This can include: tone of voice; environmental noise; gesture & movement; using the same speed of blinking and color in lighting; whiffing the same fragrance from a wearable accesssory. All this takes place during face-to-face communication. It makes them feel bonded and this mirrored feeling affects both communication partners’ impression of each other during face-to-face communication.

Both quantitative and qualitative methods are employed in user studies of two systems and the results show that both prototype systems helped the user form positive impressions in different ways. *Sound Perfume* system positively affected the wearer’s ‘Sociability’ and ‘Ethics’ impressions (e.g. warm, friendly, pleasant, close, optimistic, fair, sincere, and honest) to his partners even they were stimulated from a negative sound sample, especially in their first encounter. *Light Perfume* also could positively affect the wearer’s ‘Sociability’ impressions (e.g. warm, friendly, pleasant, close, and optimistic) to her partners from the mirroring expressions regardless of stimuli sample types.

There is a discussion of the scope and limitations of the research, accompanied by a description of future scenarios and design explorations to see how *Fashion Communication Media* can affect our daily lives. From the beginning, fashion has tried to harness diverse expressions from the various available materials. Those expressions are all related to our human senses. Emitted light, sound, smell and touch are not yet major parts of the expressive vocabulary of fashion. However, it is important for designers and researchers to consider their use in contemporary fashion technology. The works researched in this thesis can help people form and maintain positive emotional bonds through subtle sensory stimulation during face-to-face communication. This thesis contributes to the design of emotional communication and to building meaningful relationships in society through the use of rich sensory stimulus such as smell, sound, touch and lighting in *Fashion Communication Media*. 