

## Visualization and Handling of 3-Dimensional Information Structure

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### Abstract

The purpose of this research is extending the possibility of dynamic communication by using potential of digital media. We set up three themes below.

1. System to put various elements of information and express message as a 3-dimensional document
2. Interface for user to handle the contents dynamically
3. Designing method of Dynamic Documentation on this system

In this study, we made a trial model for Dynamic Documentation. This model is an aggregate of all keywords picked up from index of one book. We used the Multi Dimensional Scaling to place each keyword to the 3-dimensional space. We evaluated this model by comparing with the editorial concept of the original book. As a result, we found some characteristics of this model.

- 1) Users can understand the relation of each keyword intuitively because the relation of keywords are represented by the distance of their centers.
- 2) Users can find the new relation of keywords that the author has not intended to express.
- 3) Users can change the area of pay attention to by handling. (ex. change angle or framing, walk through)
- 4) The depth of 3-dimensional space can be used as context, background or priority.

### Keywords

Information space, structure, 3-dimensional, Model

## Design and Smell

Introduction of olfactive perception into design by a new creativity method called "Imaginative Toolbox"

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### Abstract

Through new technologies the integration of visual and acoustic information into design has become standard. The smell as a very important sense of human beings has been highly ignored by design right now. This was the motivation for the research project described in this paper.

The research paper suggest and describes a new creativity method called "Imaginative Toolbox" (ITB) which was used during the workshop. "Imaginative Toolbox" is created to help students to improve their creative abilities of problem solving. This method is useful not only for design programs.

The paper presents the used method and the results of an international, interdisciplinary creativity workshop, which was held at Tsukuba University in 2001. The international participants where mainly students and lecturers of the University of Tsukuba from different faculties. The aim of the workshop was to develop new concepts to integrate human smell perception into the design work of the future. The developed concepts are based on scientific background and personal experience.

A biologist was invited to introduce the scientific background. This scientist researches about the human smell perception especially the cultural difference of olfactive recognition between Japan and Europe. The interdisciplinary and international concept of the workshop was important to introduce the ongoing developments in smell research to the participants and to achieve profound results.

An important base for reasonable design work is personal experience. Therefore a part of the workshop was the experience of the traditional japanese "Koudou" ceremony. The intention of Koudou is to improve the smell abilities and sensitivity for olfactive perception and is described in the paper.

### Keywords

Smell, Olfactive perception, Koudou (Japanese smell ceremony), Creativity training in Education, Imaginative Toolbox ITB