A Study on True Feeling of Mobility of Paraplegic Persons

Experiment with an Multiple-Action Power Chair

Takashi Hasumi
Tsukuba University
Kouichi Nishio
Tsukuba University
Yoshihiko Nagata
National Institute of Advanced I.0ndustrial Science and Technology

Abstract

This study is a part of study for developing devices to improve the mobility of paraplegic persons. Studies for designing devices like power chairs have focused only on supporting physi-cal disabilities. While these basic studies are useful, it is also important to consider "kansei" (emotional) elements like true feeling of human motion to develop more sophisticated devices for mobility. This study consists of three research themes:
1) Understanding what constitutes a realistic feeling of motion,
2) producing prototypes called "Multiple-Action Power Chairs" that enable new motions like lateral, up-and-down, and hands-free movement, and 3) comparing motion and feeling with these prototypes and four kinds of current wheel chairs, and normal walking.

Three-dimensional analyses using an analyzing device and records of protocol have been done to measure true feelings of motion. Examination of enormous amounts of data has shown notable differences of feeling in tracks, acceleration and behaviors of protocol. Besides analyzing data, one goal of this study is to develop futuristic wearable power chairs with robotics.

Keywords

disabled, wheelchair, true feeling, kansei

Structural Consideration of Image Appreciation

Puhua Zhang
Institute of Art and Design University of Tsukuba
Akira Harada
Institute of Art and Design University of Tsukuba
Masakatu Sakata
Educational Media Center University of Tsukuba

Abstract

An intuitive reaction which people produced momentarily "like" or "dislike" is based on work of sensitivity and sensibility. This intuitive reaction is defined as a term"KANSEI" in Japanese. The appreciation behavior of the human to pictures or a design works is decided preferentially KANSEI-recognition from logic-recognition. As for the KANSEI recognition, it hasn't been made clear yet which state it worked in and also, it isn't made clear as sensitivity what kind of mechanization the structure of the recognition is. It is very difficult to obtain data like sensitivity in order to study KANSEI.

This research was able to obtain the sensitivity evaluation data to pictures, such as an observing point about image appreciation, and a course of viewpoint using the Log analysis through Internet.

The key of sensitivity research was able to be acquired by analyzing these data. The investigation experiment was conducted from the homepage through the Internet. It was made to click on the image in the part which it paid attention to from the homepage.

Next, the subject had it move a mark to a place to be interested. It could get intuitive evaluation data by having a evaluative score given to the image at the end. Finally, it was proved from the research result that this experiment method is effective.

Keywords

Kansei Evaluation, Evaluation Score, Image Evaluation, View Point, Attention Point