

Design Sense

A case study of a collaborative design-led new product development for the sensory impaired

Paul Chamberlain MDesRCA

Art & Design Research Centre, Sheffield Hallam University

Abstract

The paper will focus on a case study of the design and development of sensory equipment for people with profound sensory disability. The Design Council recently selected two products that have emerged from this research as 'Millennium Products'.

One distinct aspect of this project was that it was design-led. The initiative came not from a manufacturer but from a research team working in an academic context. The development involved a process of collaboration and communication between the design team, a team of clinical specialists and the end users. The project reflects on the important role of communication in the design process. The design team were faced with the challenges of understanding a highly specialised field of clinical practice and the end users literally could not hear, and in some cases see, what the designers and clinicians were trying to achieve.

While the project to date has focused on users with disabilities, and specialist applications within the wide field of education, therapy, leisure & recreation, the opportunities and knowledge that has emerged now present many more general applications. The paper will highlight the scope for sensory experiences from manufactured products and environments.

You are not thinking but the body is sensing. The shifting sounds of the crowd are sensed together with the colours of the street, and the scents in the wind. The different roundness of the stairs that you climb every day, the temperature of the handle, are also recognised. You adapt to the continuous change that will never be still, called environment. I saw a boy the other day, looking into his cell phone, walking along feeling the Braille tiles. These tiles are no longer an experience for the blind. Human sense is a cluster of the five senses; one may think that their combinations are countless. Consider also people may be seeking clusters of the same kind.

Naoto Fukasawa.

Keywords

Sensory, Vibration, Sound, Tactile, Design, Disability, Product development

Design and Usability Test of Remote Controllers with Small Screen for Elderly People

Kentarou TAKEMOTO

Koshien Junior College

Kazunari MORIMOTO

Kyoto Institute of Technology

Takao KUROKAWA

Kyoto Institute of Technology

Noriyuki KUSHIRO

Mitsubishi Electric Corporation

Masahiro INOUE

Mitsubishi Electric Corporation

Toshiya HORI

Kyoto Institute of Technology

Abstract

This paper aims to propose a remote controller with small screen for elderly people and to evaluate it on usability. Three types of remote controllers of household electric appliances are designed and evaluated their ease-to-use. Guide type explains how to use the buttons displayed. The sequences of operations are displayed with layer windows in visual type. In emphasis type, big size of characters and buttons are used.

Forty-five subjects participated in the experiment and carried out the three tasks to control lighting, air conditioner and television set. Task 1 is to turn on the light. Task 2 is to turn on the air-conditioner and set the room temperature. Task 3 is to turn on the television set and change the channel. Results showed that operating time of the visual and the emphasis types were shorter than that of the guide type. However subjective rating value of the usability in guide type was slightly higher than the visual type. On the other hand, the average rate of operation error was significantly lowest in the visual type. Therefore, it is very important to represent the sequence of operation in designing the remote controller for elderly people.

Keywords

remote controllers, elderly people, usability evaluation, and operation properties