Abstract

Emotion Palpus, a new interactive media for emotionally rich interaction between human and product. It augments emotional experience by using physical movement as an element of interaction. It can be attached to existing products like a PC display or a telephone. We developed an interactive display monitor equipped with Emotion Palpus as an example application. The hardware looks like a palpus of insects and the software consists of two parts, for authoring movement and building a movement database and for controlling emotional movement and connecting them with the database. This research shows the possibility of the application of physical movement as a new media to express emotions.

Introduction

In human-product interaction, there is a lack of means for emotional expression besides sound and screen display. Physical movement is worthy of note as an alternative media for a product's emotional expression. We aimed in this research to consider the details of applying physical movement, finding ways to obtain maximum interaction effects from minimum elements, and presenting its case study.

Augmenting Emotional Interaction Through Physical Movement

THE APPLICATION OF PHYSICAL MOVEMENT

Based on the review of previous researches and the field study, we developed the framework for the relationship between emotion and movement as shown in right figure. Three movement qualities are defined to express emotions: speed, openness and smoothness.

Concept of Emotion Palpus

Emotion Palpus is a physical component that can express various emotions through movement.
- Metaphor: a palpus of insects expressing emotions through moving feelers
- Can be attached to existing products: PC monitors, telephones, and audio devices
- A bar-shaped structure which consists of several pivot joints
- Can provide a more emotionally rich interaction by utilizing pairs

Configuration of Emotion Palpus

The Emotion Palpus system consists of two parts; one for authoring movement and building a movement database, the other for controlling emotional movement and connecting them with the database. The hardware part consists of a lower part which rotates horizontally and two elbow joints. This hardware was implemented with three servo-motors connected to the PC with one Phidgets’ Interface Board. The software controlling the servo motors was implemented with Macromedia Director MX and MIDAS toolkit.

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