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Evolution of Product Design based on Emotional Experience

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Abstract

This article sought to use Desmet's explanation of Product Emotion (CPE) Model to the 'Evolution of Emotional Development (EED)' in order to clarify the link between design and emotion. This study comes up with a figure that illustrates the link between Versions in EED and Desmet's CPE. In Desmet's paradigm, Version 3 in EED may be split into social and interest emotions.

Users can get emotional satisfaction through interacting with other people (social emotions) or interacting with things (product emotions) (interest emotions).

Keywords: Emotional experience, emotional satisfaction, mate design, emotion, product design

INTRODUCTION

RESEARCH BACKGROUND AND PURPOSE

Smart devices, such as robots living with humans, were previously only seen in movies. Regardless of how advanced robotic technology is, a robot's ability to have an emotional exchange with humans has a limit. A lot of products have lately transcended the constraint of performing not only the originally programmed, but also aesthetic demands, and even reaching a condition of sharing/mixing emotions with humans.

The design of a product described in this paper is in three different development phases that improve as the number of versions increases. This article mainly covers the final version, dubbed Ver3.0.

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This version may be classified as mate design, which involves the interaction of emotional sentiments between products and people.

EVOLUTION OF EMOTIONAL DESIGN AND ITS FEATURES

The term "design" has two meanings: one is function-based or functional design, while the other is emotion-based or emotional design. The emotional design gives total aesthetic appreciations through the five senses of human beings, which is the major distinction between the two designs above. Meanwhile, functional design focuses on certain senses/needs. Emotional design is more than just pleasing to the eye and ear. It provides mental satisfaction to the consumer through emotional exchanges. The evolution of emotive design may be divided into three categories based on its features.

Table 1: Development of Emotional Design

Features \ Ver	Ver 1.0	Ver 2.0	Ver 3.0
Functional Satisfaction			
Aesthetical Satisfaction			
Emotional Satisfaction			

(1) Ver 1.0: Functional design.

Functional design is mainly to fulfill user needs by easing their ordinary works such as choirs. Since the objects are mainly intended to focus on functional base, design is not considered highly important in this step.

Examples in this version include the very first prototype of in-house-machines such as vacuum cleaner, dish washer and other household products.

(2) Aesthetic design in version 2.0:

The appearance and functions of functionally-designed items in Version 1.0 have been enhanced in Version 2.0. Not only has the product's function been expanded to include additional possibilities, but the design has been improved significantly, making it more enjoyable to use.

However, the bulk of the goods in Ver 2.0 were coupled with design in such a way that numerous errors were introduced, as well as requiring users to be extremely educated about items before using them.

(3) Ver 3.0: Emotionally Rewarding Design

In this stage, products have certainly been enhanced in its design and smartness to

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overcome defects in ver 2.0 product can read/understand user's thoughts and intentions are delivered to design product and may accordingly get responses. Design examples in Ver 3.0 include a number of current gadgets that can be defined as smart.

Since designed products in this stage are thought to interact with its user, we would like to call it as ‘mate design’.

Ver3.0. has encouraged significant changes in our life style and society as a whole, according to the following examples

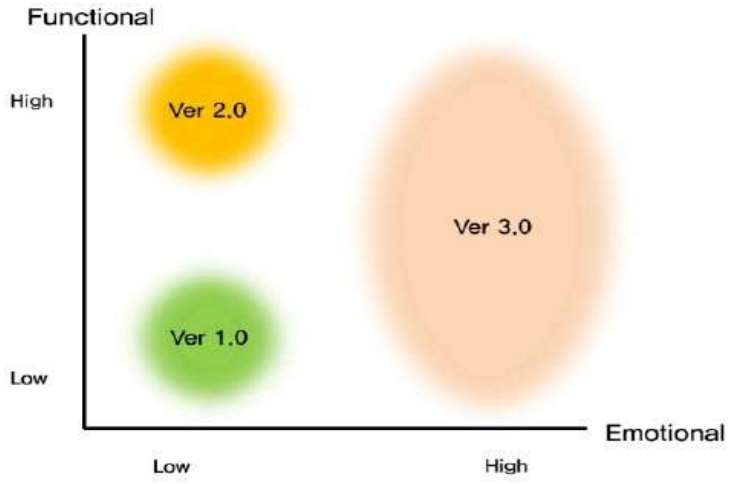

Figure 1: Evolution of Emotional Design (EED) Chart

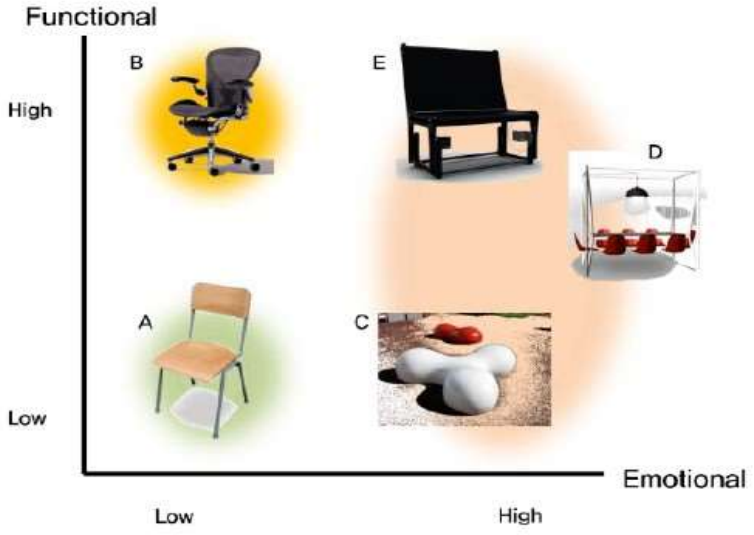

Figure 2: Variety of chairs placed on the Evolution of Emotional Design (EED) Chart

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In the charts above, ver3.0 in products can be explained by three chairs with significantly different designs. Two axes above represent emotion and function.

Five different chairs from A to E are positioned above reflecting their emotional and functional levels. Ver 3.0, the focus of this paper can be explained by three chairs in the figure above. Chair C represents its relatively more emotional aspects, and chair D is a reflection of our nostalgia in our childhood. Chair E that is at least partly concerned with eco-friendliness satisfies both emotional and functional needs.

LATEST IN EMOTIONAL DEVELOPMENT

We can see from the example above that improvements into version 3.0 have only 'progressed' from what it was before, rather than being a significant change. Before emotional interaction could take place, our lives took on a shape in which users were centered between the cohabitation of electronic products, objects, and space, which we like to call electronic mates; prototype of ver3.0 items.

However, when sympathetic functions are transgressed, the distance and hierarchy-like structure between electronic partners and humans will continue to evolve, therefore elevating emotional interactions between the two and making them more horizontal.

This type of variation has previously been seen in a number of science fiction films. 'Iron Man' is one such movie. 'Iron Man', the movie's hero, lives in ver3.0 space, which aids him in his job by aiding him, and with ver 3.0 mates who support him in his work as well as being excellent friends.

'The iron man' ver3.0 space and products do not only coexist in a horizontal level, but even ascend to a high state, as a result of the measures that Iron Man takes to become a true hero. In fact, using the 'kitchen' as a paradigm, the experiment of evolution in ver 3.0 space has been rigorously tested in our daily lives. Recently, Kyoto University's 'Minoh Laboratory' revealed a smart-kitchen system that aids its users by recognising user behaviours in cooking and allowing kitchen appliances to assist the users by adjusting.

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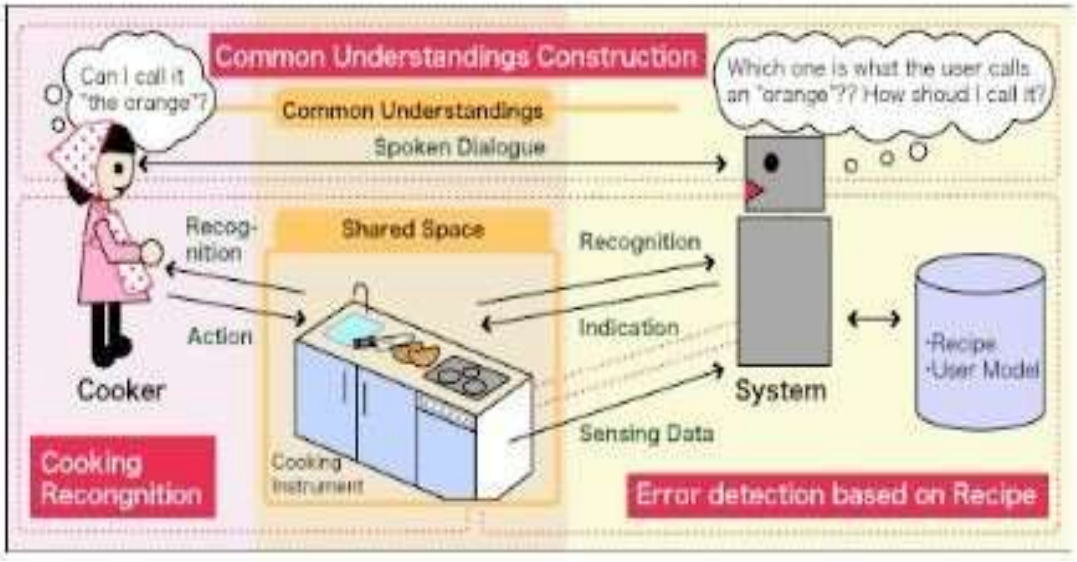

Figure 3: Smart kitchen by Mino Laboratory

[Source from : http://www.imel1.kuis.kyoto-u.ac.jp/en/research/skitchen.html]

DEVELOPMENT DESMET'S CLASSIFICATION OF RODUCT EMOTIONS

Desmet (2007) attempted to propose a paradigm that would encompass all potential emotional sensations encountered during genuine human-product interaction. Instrumental and non-instrumental interactions, as well as non-physical interaction, are all covered in the aforementioned interaction.

The foregoing experiences may be divided into three categories: aesthetic experience, meaning realisation experience, and emotional experience. Desmet (2003) described emotions connected to a product as an evaluation process in which the individual appraises the product as (possibly) hurting or favouring one or more of the person's concerns [1, 5], based on Frijda's (1986) cognitive viewpoint on emotion. Style isn't the only factor that affects emotional response.

It's more about wealthy emotions, which include both positive and negative feelings. Multiple emotions may be present in the situation [1, 2], such as Surprise, instrumental, aesthetic, social, and interest.

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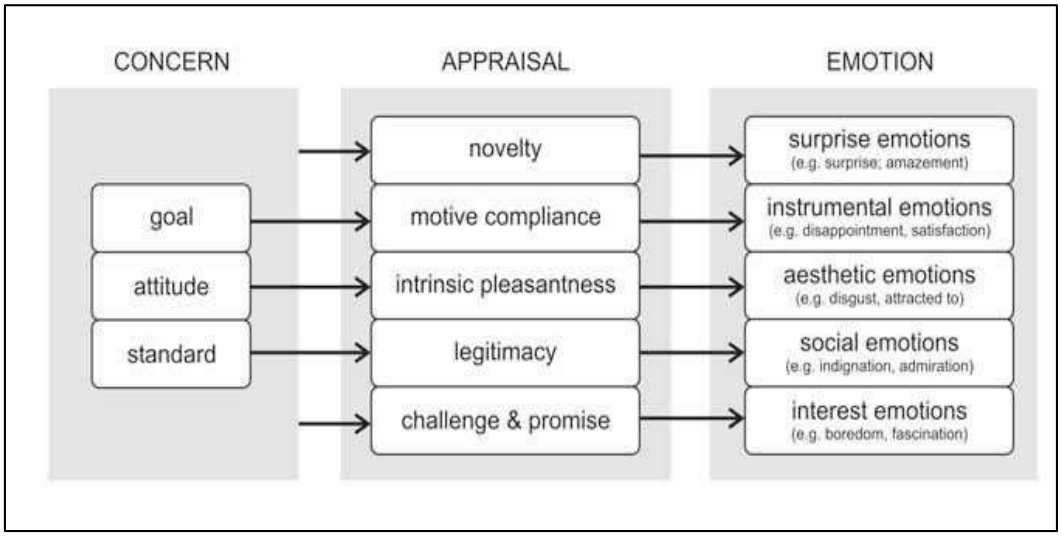

Figure 4: Classification of Product Emotions [1]

CONCLUSION

This article attempted to apply Desmet's Clarification of Product Emotion (CPE) Model to the 'Evolution of Emotional Development (EED)' in order to clarify the link between design and emotion. This study comes up with the diagram below to better convey the connection between EED Versions 1 to 3 and Desmet's CPE. In Desmet's paradigm, Version 3 in EED may be split into social and interest emotions. Users can get emotional satisfaction through interacting with other people (social emotions) or interacting with things (product emotions) (interest emotions).

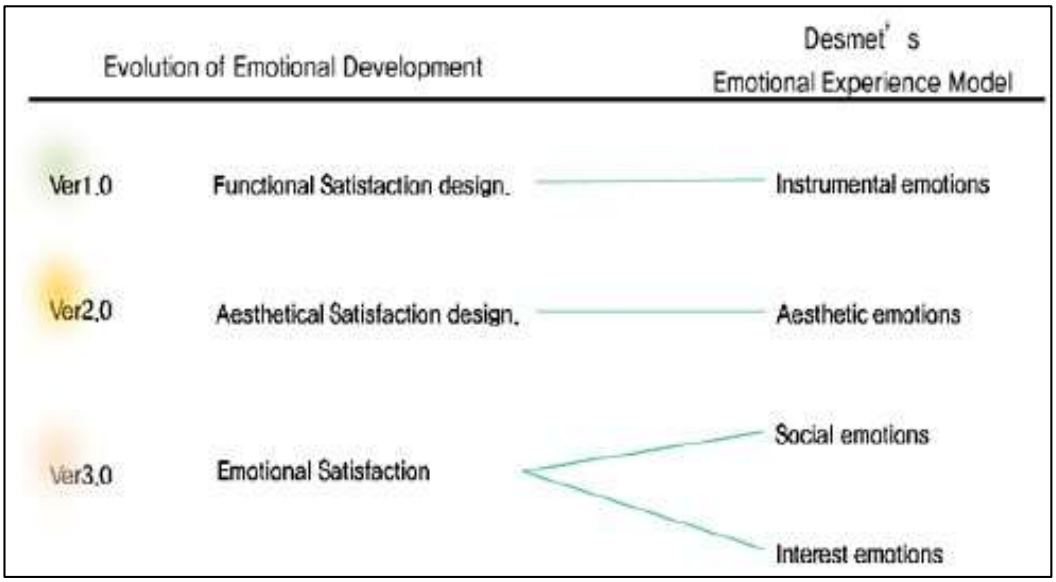

Figure 5: Evolution of Emotional Design (EED) & Clarification of Product Emotion (CPE)

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