

PRODUCT PERSONALITY: FROM ANALYSING TO APPLYING

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ABSTRACT

Nowadays products are expected to undertake their functions properly and the competition for satisfying consumer is in the field of product attachments and emotional characteristics. Products have a symbolic meaning in addition to their utilitarian benefits. This symbolic meaning that refers to physical product and is described with human personality characteristics is called "product personality". Consumers make a psychological comparison between their self-concept and the image of a product and the result of this comparison can positively influence product evaluation.

The main mission of a designer is a problem solving one and designing a product appearance is a problem solving process as well. Students during the industrial design studios learn how to utilize design techniques in product's functional problem solving, but the emotional design aspects and techniques are usually neglected. Therefore, students should learn how personal characteristics in objects' form can be recognized and how they can apply personality in product's appearance.

This paper introduces the method of "product personality" design as a problem solving process. This pedagogical process of "product personality" has been developed to help industrial design students to improve their abilities to understand form's capabilities and utilize them in designing products' appearance. After learning and practicing this process, students are able to express roles of a product's visual elements performing in product personality. Furthermore they can translate these performances into rules and finally employ rules as solutions in product personality design as problem. The process includes three main phases of analysing, translating and applying.

Keywords: Product personality, aesthetics, pedagogical design process, product appearance responsibilities, user-product attachment

1 INTRODUCTION

The appearance of a product as a medium provides solutions for consumer-product interaction problems and "Product Personality" is one of the responsibilities that it has.

Nowadays it is believed that products can be expected to fulfil their functions reasonably well and the symbolic meaning of a product provides a way to differentiate them [1]. One aspect of this symbolic meaning is explained as product personality and defined as "a set of human personality characteristics used to describe a specific product" [2].

Product personality cannot be reduced to distinct product attributes but rather refers to a holistic description of the product as a whole and is strongly influenced by product appearance [3]. People often think and talk about products as having a personality and relate to them accordingly [4]. Moreover, "The most wanted product today is not any raw material or machinery, but personality" [5]. Studies indicate that people prefer products with a personality that matches their self-image [1]. It refers to the fact that consumers prefer products associated with an image that is similar to their self-concept [6], [7] and [8].

Product personality has gained its place in design for at least two reasons; first, consumers feel good about their choices because they fit their own self-concept rather than the group norm [9]. Second, when offering a range of product variants that fulfil the same functional need, yet having different product personalities, a company enables more consumers to select a product variant that expresses their own individuality; hence, increasing their market share. This is especially relevant in mature markets where differentiation in price and functionality is difficult [1].

2 BACKGROUND

In 1997, Janlert and Stolterman discussed that product personality can have consequences for the users interaction with the product [4]. The products' human-like characteristics serve as an analogy for their behaviour and capabilities [4], [10] and help users to anticipate how to interact with a product [11].

People prefer products with a personality that is similar to them, probably, because these products help them to confirm and express their self-concept [1], [12].

In (2007), Brunel and Kumar found evidence that visual aesthetic characteristics besides, besides the evaluations of product appearance, are linked to the perceptions of product personality [13].

In (2009), Mugge et al. developed a product personality scale that can be used for systematically assessing the way users perceive the personality of a new product during the design process [14]. They believe it is essential that the particular product personality that designers aim for during the design process be correctly understood by users. Nevertheless, this does not imply that the creation of a specific personality characteristic in a product is straightforward and that the product personality scale may serve as a recipe for creating products with predetermined personalities. In fact, designing products with a predetermined personality is a complex and creative design task [14].

Govers et al. believe designers can translate personality characteristics into the product form in a way that consumers understand [3]. But there is not any process up to now to help designers to apply personality on products.

3 METHOD

The process of product personality design is a three-stage method that has been experienced and developed during 5 years in a studio course for Bachelor of Industrial Design. This design process is repeated during 9 semesters in the same condition and the results of the analyses were almost the same according to the variety of subjects, references and researchers for a certain personality. On the other hand, using the same aesthetic result for designing different products resulted in similarly the same personality characteristics. These two results confirm the validity and reliability of this study.

The pedagogical process of "product personality" is designed to empower industrial design students to understand form's capabilities and utilize them in designing products' appearance. After learning and practicing this process, students are able to express roles of a product's visual elements performing in product personality. Furthermore, they can translate these performances into rules and finally apply them to the product appearance.

This studio is conducted based on the common process of product design; i.e. just the needed parts are adapted to the studio. Moreover, some parts are done by focusing on educational practices according to the principles of training and education.

The students should have some primary skills such as understanding the logic of product design process, visual literacy and form recognition, the ability of form and function analysis, knowing the general concepts of product design like the production and launching methods, and also the ability of analysing the customer's behaviour.

4 THE PROCESS OF PRODUCT PERSONALITY DESIGN

The process includes three main phases of analysis, translation and application (Figure 1). Each phase is divided in several steps like visual evaluation, classification, verbal definition, sketching, etc.

Choosing personality characteristics are done prior to the Process of Product Personality Design. In fact, these personality factors are chosen according to the criteria based on consumer self-image [1].

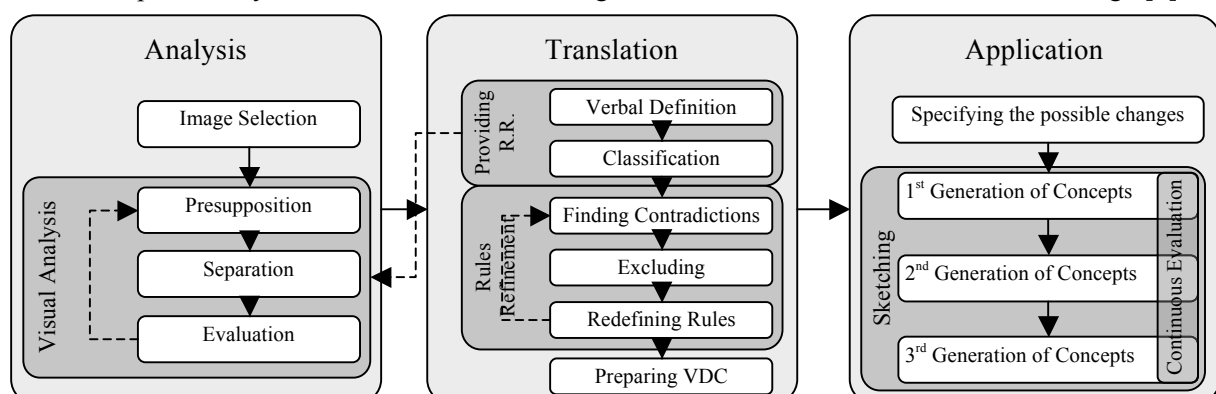


Figure 1. The Process of Product Personality Design

The main configuration of the process is based on standard design process and the levels of common researches, but it has been refined to adapt with pedagogical purposes.

4.1 Analysis

The mission and purpose of this phase is the visual analysis of personality references. Students get ready for this stage by some practices. Since the impact of appearance on our inference about a person's personality is supported by many experimental results [15], the students should be prepared to judge about personality based on different portraits. It is proved that we infer a person's personality from his or her appearance [11]. The exercise will proceed by judging on the personality of different images of some products to prepare students to understand the concept of product personality. Next, several pictures of products are shown and the students are asked to try to imagine what kind of people generally prefers those products [1].

4.1.1 Image selection

Doing the exercises, the students are ready to choose images as references. These images are chosen based on the desired personality. So in this stage, they are asked to prepare a bank of several images from nature, creatures, things and products relevant to their topic's personality. Selected pictures had better have a suitable visual condition and create a three-dimensional perception for the observer. The variety of pictures is more important than its number since variety in these pictures causes variety in aesthetic solutions.

4.1.2 Presupposition

The visual aesthetic characteristics, such as simplicity, harmony, balance, unity, dynamics, timeliness, and novelty are linked to perceptions of product personality [13]. Since the presupposition stage is a conceptual process, it is highly dependent on the students' analytical abilities. At this stage, the observation of the pictures and finding visual reasons for personality inspiration is perused by students. There are some visual characteristics which students need to consider more. They include Framing, the Rhythm of the visual elements, the Shape of the Lines, Aggregation and Division of Points, the Type of Surfaces (twistedness, complexities and surface extension), Body (general form, dispersal, etc.), Colour (light/dark, warm/cold, colour boundaries, colour sorting), and Texture (smooth/ruffled, texture quality, the position of the textured part, etc.).

4.1.3 Separation

The visual results are drawn separately at the separation stage which is accompanied by drawings and explanatory notes. Students should critically decide on the choices between drawing the visual detections separately or in a combination with other visual elements. At first, s/he starts with separating the elements as far as possible. If the final outcome is not what desired, it could be the student's own failure to realize the right visual factor or the need for accompanying another visual element of the picture. For instance, the rule of "overlapped surfaces" is supposed for "impenetrable" personality. But after drawing these surfaces on the separation stage, it is inferred that this personality is not noticeably inspired. After reconsidering the image, it is revealed that impenetrability is caused by two factors (overlapping and convex surfaces) which will lead to synergy.

4.1.4 Evaluation

Different tools could be applied to determine the efficiency of the obtained pattern. Due to their awareness about the topic, students can evaluate the efficiency of the visual pattern by themselves. A group discussion by the students can be considered as another source of evaluation but the most precise method can be giving a pictorial questionnaire or a customer interview. By so doing, the designer somehow shares his evaluation of the matter with others by asking some questions on paper.

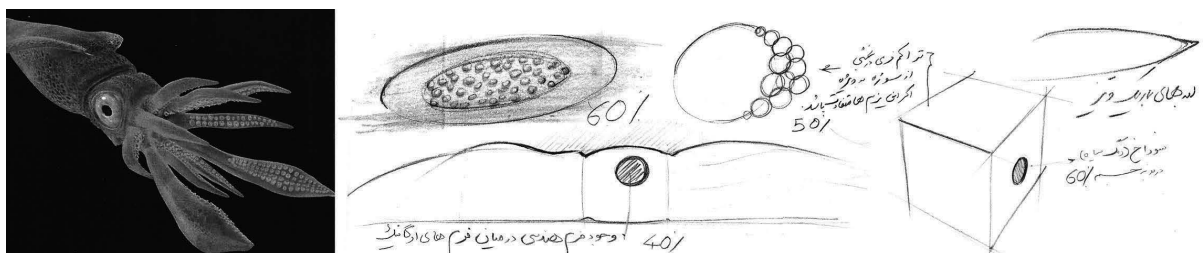


Figure 2. Visual analysis of a picture

Some instructions have been conducted for these kinds of questionnaires which can be used at this stage [1], [14]. Completing this stage results in the visual patterns that are predicted to be useful for inspiring the desirable personalities.

4.2 Translation

This Phase includes two major sections. In the first section, Rudimentary Rules (R.R.) are provided based on qualified visual patterns imported from the previous phase and, in the second one, the students try to refine and redefine rules for generalization. This phase ends up with listing the results as Visual Design Criteria (VDC).

4.2.1 Providing Rudimentary Rules (RR)

This stage is a transitive phase which changes the visual patterns into rudimentary rules. Two major steps of this phase are verbalization (defining the visual concepts) and classification.

Verbalization is an important step and it is being taught by some practices. As Dörner indicates, verbalization helps in finding the weak parts of one's ideas [16]. Another reason why this step is considered important in reaching the rudimentary rules is the fact that in the verbalization process, it should be carefully tried to be simple, precise and to the point. To this end, students should be aware of the linguistic rules regarding the transfer of meaning like the connotational meaning of words (a commonly understood subjective cultural or emotional association that some word or phrase carries) and the denotation one (the word's or phrase's explicit or literal meaning).

In the next step, in order to find the shortages, the rudimentary rules are divided into two groups: the rules regarding the overall status and the rules regarding the details. Besides all recognizable products' aspects, some inconspicuous details of the product design can play an important role. So it is needed all relevant product aspects to be designed in such a manner that the whole product is perceived as having the desired personality [14]. As the appearance of a product consists of an overall status, lines, surfaces, points, colour, texture and interface, component's arrangement, etc., all effective in inspiring personality of the product, the designer should have enough rudimentary rules for all these classes in order to use all the visual potentials in the design process. After the classification stage, if it is found that the rules for each class are not sufficient, the student should return to the analysis phase to spot and remove the shortage.

4.2.2 Rules refinement

In this stage, the goal is defined as refining the rudimentary rules which were derived from the previous stage. These rules must be very precise and pure to minimize the possibility of any misunderstanding and thus make these rules verifiable. This stage includes: finding contradictions, excluding them and redefining the rules. Having a clear idea about a product is not sufficient. The designer should look for 'contradictions' and try to remove them [16].

At the first section, students should find pictures corresponding to each rule, though not inspiring the personality of that rule. This condition is called rule's contradiction and its removal from the rudimentary rule brings about the rule's completion and development. These pictures can be of nature, creatures, artifacts, products or even students' own drawings. At the second part, they should analyse the contradictory pictures to eliminate the contradictions by identifying their real reason. This stage comes to end by redefining the rule.

4.2.3 Preparing Visual Design Criteria (VDC)

The outcome of the refinement stage is the developed rules which are mainly verifiable. These developed rules are listed according to a check list of VDC to be used in applying phase. As mentioned before, all rules will be in their own place and class. This classification is used in preparing the final list, too.

4.3 Application

In this phase, students have to utilize VDC for developing a product's appearance to achieve personality. The process is planned to control students to design unerringly based on the studio's goals, so there is a continuous evaluation that is done by students themselves.

4.3.1 Specifying the possible changes

Generally, technical and manufacturing issues are not fully recognized in designing product personality and the main concentration is on appearance, but changing the visual characteristics of a product should not lead to technical or functional disorders. So, in this step, it is tried to gain required information for product design by full recognition of functional parts and mechanisms in order to prevent any inconveniences in functional structure of the product.

The main internal parts of the product are the most important issues at this step: their relation with each other, their energy supply, ways of air transmission or the movement of fluids and the limitations of the functional parts. Besides, other topics such as ergonomics, user-product interaction and safety are paid attention. After a general understanding is achieved, we should evaluate the possibility of any change or substitution in parts. Sometimes we cannot move some parts even for some millimetres, but in some other cases we can completely change or substitute a part.

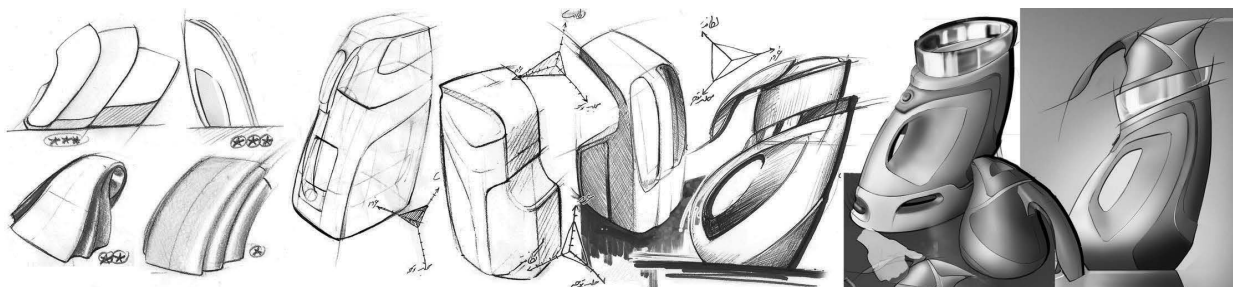
4.3.2 Sketching

In product design, visual expression, especially in the form of sketching, is a key activity in the process of originating new product ideas [17], [18]. It is possible to apply the VDC. But it is highly recommended to avoid computer aided design (CAD) systems in this step since the current CAD systems do not provide sufficient support to the early conceptual stages of design [19].

To start sketching, the students themselves should test the obtained rules separately to evaluate their impact factors. This step is called “First Generation of Concepts” (1stGCs). A student may have explored 15 to 25 general rules from previous phase as VDC. Some of these rules imply general forms (the product’s body), whereas some of visual characteristics are inferred from rules which can be applied in designing details. Thus, it is important to utilize the detail rules accompanied by the general (body) rules. Then the students concentrate on combining 1stGCs. The aim of this step is to reach a unique appearance of a product with different rules that inspire desired personality. The students should combine the rules used in 1stGCs so many times that they obtain the “Second Generation of Concepts” (2ndGCs). These concepts are able to transmit various personalities simultaneously, but none of them should harm others in a unified form, rather they should create a better understanding of the emotional message of the form.

The “Third Generation of Concepts” (3rdGCs) is planned for developing 2ndGCs which have been acquired better scores in evaluation. In fact up to 10 concepts are being developed in this step to qualify for manufacturing and meeting user requirements. Moreover, other factors such as coordination and balance between visual elements (unity in form) or the production possibility and proper function of the product are also evaluated. The filled radar diagram is used for evaluating and comparing the concepts.

Analysis and evaluation are important in creative thinking, but they also obstruct the process of generating ideas [20]. So “continuous evaluation” should not be used simultaneously with form generation. It is recommended to postpone judgment to the end of each step or batch of concepts.



5 CONCLUSION

Customer’s preferences can be obtained by a function of product’s appearance named “product personality”. In order to design a product with suitable personality, it is necessary to find out the consumer self-image. So the whole visual capacity of a product should be utilized for applying personality. In addition, references are needed for eliciting patterns and rules and the references should be a good instance of the desired personality.

The process of product's personality design is a creative process which needs two elements: First, designer's abilities and capacities for eliciting and applying visual elements as personality; second, her/his commitment to the instruction of the process.

The product personality design process includes three main phases of analysis, translation and application which are planned to be utilized by Industrial Design students and can be used for real design jobs as well. Doing and practicing this process, students will be able to express roles of a product's visual elements performing in product personality. Furthermore, they can translate these visual roles into design rules and finally be capable of employing rules in products' personality design.

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